ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. XCIX, No. 17 — Thursday, October 25, 1934

Ottawa May Impose Newsprint Paper Code

Dominion Federal Government May Join With Provincial Governments of Quebec and Ontario In Effort to Fix Reasonable Newsprint Quotations—Threaten to Bring the Newsprint Industry Under Recently Passed Natural Products Marketing Act—Move Recognized Inevitable Unless Executives Set Their Own House in Order

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 22, 1934—A report from Ottawa that the Federal Government may join with the Provincial governments of Quebec and Ontario in clearing up the newsprint situation is the latest stirring element in connection with the controversy over newsprint price contracts. Following sharply on the announcement by the premiers of Quebec and Ontario that any company deliberately undermining the efforts being made to maintain a reasonable price level would be subject to the withdrawal of stumpage fee and other concessions that have been made by the Governments of these provinces with the object of aiding the struggling industry, comes a threat that the Federal Government may enter the picture by bringing newsprint under the recently-passed Natural Products Marketing Act. This is a development that all concerned would wish to avoid, but unless the executives of the industry set their house in order it is recognized as inevitable. In this connection it is significant that during the past week announcement was made of the bringing of the British Columbia shingle industry under the operation of the Marketing Act. Conditions in the shingle industry in British Columbia practically parallel those in the newsprint industry in the East. It is pointed out that the enforced continuance of the present price of $40 a ton f.o.b. New York, throughout 1935 might go far towards ruining the whole newsprint industry. In 1933 the situation was serious enough, but, since the summer of that year, costs have been advancing, and, in addition, a premium on U. S. funds had been turned into a discount. The exchange situation itself was of material assistance to the Canadian mills last year, and the elimination of the premium on the U. S. dollar and its replacement by a discount is the chief factor in the need for a higher price being obtained by the operators on their production.

Montreal Star Sounds Warning

The *Montreal Star,* the leading English paper in Quebec Province, has this week devoted a column editorial to a grave warning to newsprint operators. Pointing out that no newspaper is anxious to increase the cost of producing its finished product, it nevertheless argues for common action on the part of newsprint manufacturers in fixing a reasonable price for newsprint. It says in part: "Every newspaper dreads the thought that a Government 'code' may be imposed on the newsprint industry, a la Roosevelt, which will bring under official control the relations of the paper-makers with the publishers. Yet this is the fate that confronts the newsprint industry of Canada if it does not prove its ability to keep order in its own house. The only salvation for the industry is judged to be an increase in present prices. This is bad news to newspapers but, after all, the prosperity of the country comes first. An event has occurred, however, which has led the Premiers of Quebec and Ontario to threaten Government action in order to maintain any agreements entered into for self-preservation by the various members of the industry. This will be a thoroughly bad thing. The Dominion Government has been compelled to set up marketing boards to take control of the marketing outside of Canada of certain of our products. This has been proven an absolute but unwelcome necessity in several instances. No interference with freedom in bargaining and sale can be welcome to either buyer or seller. But where an industry is threatened with ruin unless it is done, it becomes a necessary evil. Both Premier Taschereau and Premier Hepburn would be delighted to be relieved of this unpleasant duty. But it seems quite clear that they will both perform their duty if they must. It is for the various paper companies to act in voluntary harmony in such fashion as to avoid this necessity. Even their American customers will be better off if they take such reasonable attitudes as will enable the Canadian industry to continue to do business as free agents. They will not benefit ultimately by forcing a system of Roosevelt 'codes' on Canada."

Newsprint Production Continues Strong

September output of newsprint in Canada was again ahead of that of the corresponding month of last year, according to the News Print Service Bureau. The increase was 9.3 per cent. at 196,172 tons as compared with 179,416 tons in the like month of 1933. August output was 216,164, the high in 1934 was in May at 242,539,

(Continued on page 29)

Masonite Corp. Reports Most Profitable Year

Financial Statement Shows Funded Debt Organization's Only Obligation—All Current Bills Have Been Discounted—Ben Alexander, of Wausau, Re-Elected President—Kieckhefer Container Co. Calls First Mortgage Bonds for Payment

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 22, 1934—One of the most profitable years in its history was enjoyed by the Masonite Corporation, of Wausau, Wis., according to reports submitted at the annual meeting of stockholders at that city last week. The company has its mills at Laurel, Miss. The financial statement showed that the funded debt is the company's only obligation, since all current bills have been discounted.

One of the factors in the sales increase for Masonite composition board is the exhibit the company has conducted at A Century of Progress, Chicago. More than 2,500,000 persons have gone through the display booths to familiarize themselves with the various uses of Masonite, and the T. H. Jacob trailers made in the Wausau plant.

Ben Alexander, of Wausau, was re-elected president by the board of directors. Other officers are: W. H. Mason of Laurel, Miss.; D. C. Everest, of Wausau; and J. P. Gillies, of Chicago, vice presidents; M. P. McCullough, Wausau, treasurer; A. P. Woodson, Wausau, secretary. The additional directors chosen by the stockholders are C. H. Worcester, of Chicago; C. J. Winton, of Minneapolis, Minn.; Ernst Mahler, of Neenah, Wis.; and C. C. Yawkey, of Wausau.

Vera Chemical Co.'s Tonnage

Tonnage of the Vera Chemical Company, Milwaukee, Wis., a division of Paper Makers Chemical Corporation and Hercules Powder Company, is about equal to that of 1933, according to James H. Wheeler, manager. In the industrial department, the sales have steadily increased since 1932. A 30 per cent gain was experienced in 1933 over the previous year. The household department has shown a 200 per cent increase. The paper mill department has shown less of a demand, and research therefore has been directed to other channels in the development of new products.

The Milwaukee concern was founded in 1898 by Hugo Schlesinger and Bruno Kniffler. Other plants later were established at Stoneham, Mass., and in Canada. In 1928 it became a unit of Paper Makers Chemical Corporation, and in 1931 of Hercules Powder Company.

Rhinelander Motion Pictures Shown

Motion pictures will be used by the Rhinelander Paper Company, Rhinelander, Wis., in its sales department for the development of new customers.

A film has been made without sound equipment "on location" throughout the company's mill and in woods operations on its timber lands. A running narrative describes the processes employed in making Rhinelander products. The picture opens with the forest operations and follows the wood through various steps until it emerges as paper.

Although the picture was completed only a short time ago, it already has received much attention in the paper industry. It was first shown to mill employees and business men of Rhinelander, and preparations are now being made to display it to national groups of paper users and manufacturers. The picture already has been shown in Chicago, and was to be screened in Beaumont, Texas, last week.

News of the Industry

Kieckhefer Container Company, which has one of its main plants at Milwaukee, Wis., has called for payment on November 1, 1934 its first mortgage 5½ per cent bonds. Those due May 1, 1935 are called at 100¼, and those due May 1, 1936 at 100½.

Nekoosa-Edwards Paper Company, Port Edwards, Wis., will dispose of practically all of its lime sludge under the unique FERA project for the benefit of farmers in Wood county. This pure Indiana limestone, finely ground for use in bleaching, is found to be the best fertilizer for legumes. The sludge is hauled to any farm within a 25-mile radius of the mill at the rate of $1.25 per ton, about half the usual trucking charge. The company charges only a small amount for the sludge, thus assisting the agricultural situation in its community.

Reforestation surveys are being made in each Wisconsin county where land is more adaptable to that purpose than to agriculture. The first of these has been completed in Waushara county by Clyde T. Smith, state forester. It is estimated that the county will require 2,500,000 trees for windbreaks and shelter belts and 6,000,000 more for under-plantings on waste land. A systematic reforestation program will be worked out upon completion of the surveys.

Edward J. Pope, of Middletown, Ohio, has been visiting his former paper mill haunts in Wisconsin for the last week, principally at Eau Claire, where he arrived in 1883 to revise the equipment of the mill that later became the Dells Paper and Pulp Company. He was well known as a designer of improved paper mill machinery, and jointly with his brother owned many patents. Mr. Pope is 86 years of age, but still enjoys extensive travel. He says he is working on a machine now that is expected to produce rubber out of a bush now grown in Oklahoma.

Orr Felt & Blanket Co. Resumes

DAYTON, Ohio, October 22, 1934—Satisfactory progress is being made at the plant of the Orr Felt and Blanket Company at Piqua, according to reports received here this week, following the resumption of activities.

Nearly 450 men and women returned to their posts last Monday as if they had no recollection of a strike having been in effect for several weeks, and the work of getting out orders proceeded normally. Because of the suspension, however, it probably will be necessary to speed up the output and no shutdowns are anticipated.

The mediation committee which will take care of disputes, if any, that might arise in the future, is prepared to act but in the opinion of workers and officials, there will be no need of their immediate services.

The Orr Felt and Blanket Company's plant is one of the largest of its kind in the country, and the biggest industry in Piqua. When the working forces returned to work Monday morning the mill whistles sounded long and hard. The entire populace was aroused and the occasion was made one of rejoicing by the community.

Ontario Opposes Newsprint Paper Price Cutting

Premier Hepburn Joins With Premier Taschereau, of Quebec, In Combating Attempts to Reduce Quotations—R. J. Haynes, of Newton, N. Y., Elected Chairman of Northern New York Division American Pulp & Paper Mill Superintendents Association

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 22, 1934 — Premier Hepburn this week aligned himself with Premier L. A. Taschereau in regard to the stand taken by the Quebec premier against the reported policy of a company in attempting to reduce the price of newsprint. In a statement handed out from the premier's office Mr. Hepburn said: "Having read the statement of Premier Taschereau with respect to a certain paper company operating in the province of Quebec, which company is alleged to be engaged in a price-cutting attempt on newsprint, I wish to make it known I am heartily in accord with the premier of the province of Quebec when he states that such a move would be ruinous to the newsprint industry in Canada. I am certainly sympathetic towards any and all moves that may be taken that will, in the final analysis, mean an improvement to the working man's cause and the newsprint industry and permit them to carry on in such a way as to enable them to maintain their employees on a more humane basis and better standard of living. It is neither the desire nor the intention of the government of Ontario in the administration of its natural resources to encourage in any way the operators to bargain or make any adjustments that will be injurious to the industry or the workmen engaged therein."

Superintendents Meet at Ottawa

R. J. Haynes, of Newton, N. Y., was elected chairman of the Northern New York Division of the American Pulp and Paper Mill Superintendents' Association at the annual convention held last week in Ottawa. He succeeds B. deB. Millidge of Cornwall, Ont. J. C. Day, of Ottawa, was elected first vice-chairman and D. R. Dick, of Cornwall, second vice-chairman, while J. Rogers, of Ausable Forks, N. Y., was chosen secretary-treasurer. A technical discussion of the value of clays in finish and opacity of book papers was led by R. J. Davies, technologist of the English China Clay Corporation. W. Davey, vice-president and general manager of the Mortimer Company, Ottawa, told of paper requirements for printing and lithography. Corrosion of the steel shaft, causing an increase in volume, which exerted a pressure sufficient to crack the granite, was the reason for failure of granite press rolls, reported L. R. Cole, of the Department of Mines, Ottawa. He said that Canadian granite had proven successful and that it was the imported granite which cracked.

Nipigon Mills Resume Work

Blowing of whistles marked the official return to work on October 16 of 80 men, employees in the Nipigon Pulp Mills of the International Paper Company, which have been closed down for a number of years. The mills will be operated with three shifts, the majority of men now at work being former members of the staff who made their home in Nipigon and who have been engaged in bushwork and on relief since the plant was closed.

B. C. Mill to Meet Interest Payment

Full interest payment on the 6 per cent first mortgage sinking fund gold bonds will be met by the British Columbia Pulp and Paper Company, Ltd., on the due date, November 1, 1934, according to Lawrence Killam, president. This marks the last of the payments which the company secured permission from bondholders to postpone if necessary. By agreement in May, 1933, the bondholders agreed to postpone interest instalments falling due in 1933 and 1934 on the understanding that they would be payable in order of their maturity as and when cash available from operations is sufficient to pay them. Under this plan payment due May 1, 1933, was made October 16, 1933, with interest at 8 per cent from May 1. Before the November 1 due date conditions had improved sufficiently to permit payment in full on December 1, 1933, only one month of deferment being necessary. On May 1 of this year payment was made without any postponement, and the same conditions will obtain November 1. Bondholders waived and cancelled sinking fund instalments due in 1932, 1933 and 1934. The 6 per cent first mortgage bonds are outstanding to the amount of $3,321,000.

Japan Purchases More Newsprint

Japan increased her purchases of Canadian-made paper during the first half of 1934, compared with the same period in 1933. According to returns reported by the Department of Trade and Commerce, Japan imported 478,024 cwts. of paper from the Dominion in the first six months this year, a gain of 37.5 per cent over the corresponding months of last year. By far the largest share of the paper trade between Canada and Japan is in newsprint. For the first six months this year newsprint shipments totalled 378,216 cwts., as against 315,167 cwts. in 1933, a gain of 20.0 per cent. Some Canadian sulphite pulp is also imported by Japan for further processing into rayon yarns. Beginning January and June this year Japanese importers purchased 19,628 tons of Canadian pulp. This represents a marked decline from last year, when in the half year 30,972 tons of Canadian pulp were imported. The trade returns show no falling off in demand, rather has there been an increase, pulp producers in the United States and Sweden benefiting at Canada's expense.

Pulpwood Strike Inquiry Starts

The Ontario Government this week started an inquiry at Sault Ste. Marie, Ont., into conditions at pulp camps of the Abitibi Power and Paper Company, where 750 men are on strike demanding higher wages. Thor Ehn, of the Department of Lands and Forests is conducting the investigation. The Hon. Peter Heenan, Minister of Lands and Forests, will arrive at the Soo this week to inquire into the strike, which has affected the company's camps along the Algoma Central Railway. Pulpwood men said that they felt the early settlement of the strike in the Soo district and in the Iroquois Falls area was essential to safeguard Ontario's newsprint industry. If no wood is cut mills will have to close, they say. About 200 men are working in camps in the Soo area, while 110 are grouped in five small camps at Mile 122 of the Algoma Central Railway, and 36 others are in Saline's camp, Magpie.

Chicago Paper Market Exhibits Stronger Tone

Demand for Various Grades of Fine Paper More Persistent, With Bonds and Ledgers Moving Into Consumption In Good Volume—Better Request Experienced for Book and Cover Papers—Kraft Wrapping Paper Section Displays Greater Strength

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 22, 1934—Definite indications that the paper business in this territory is on the mend continue to come from close observers of the various markets. While certain industries have, in the near past, reported some favorable improvement, the past week is the first one in some time when executives came close to uniting on the good news that improvement was general.

Specifically, there was a much healthier tone expressed in the local kraft market both on the part of manufacturers' representatives and jobbers. The market undertone was reported stronger. Ground wood representatives indicated an improved condition, with some mill representatives reporting very favorable increases in demand. Newsprint executives also felt encouraged over recent efforts to secure a stabilized market. Fine papers continued to give a fairly good account of themselves, with bonds and ledgers moving into a more rapid Fall market. Books and covers showed a wider range of betterment with volume picking up on increased demand. The paper board interests stated that increased uses of their commodities were helping to accentuate an already noticeable improvement. All lines indicated that business in general felt somewhat better over the outlook, although confident that the upturn would be conparatively slow. The waste paper market registered a slightly more buoyant tone during the week.

Paper Salesmen Meet

The Middle West Division of the Salesmen's Association of the Paper Industry continues to devote each weekly session to specific problems arising from an application of the code as affecting general business. These practical sessions, it is reported, are having much to do with greatly increased attendance. Incidentally, the association has returned to its old stand at the Hamilton Club after a short tryout of Palmer House facilities. Visitors to Chicago on Monday will thus find the noon luncheons going on in full blast at the Hamilton Club.

R. E. Wantz Outlines Recovery Program

Balancing of the federal budget, repeal of section 7a of the NRA and adoption of a program tending to inspire confidence among business men and investors were recited this week as conditions precedent to permanent recovery by R. E. Wantz, executive head of the Rockford Fibre Container Company. Mr. Wantz spoke before a group of manufacturers at Decatur, Ill., and, in addition to outlining a program sadly needed to reassure business, said he saw some encouraging signs of improvement arising from a better conception of business needs on the part of those high in governmental affairs.

Pilcher-Hamilton-Daily Plant Damaged

The Pilcher-Hamilton-Daily Company has been operating under a real handicap during the past week while workmen clear away the damage done by a major explosion which occurred on October 12 in the plant of the Central Cold Storage Company, which is next to the office and warehouse of the well known Chicago coarse paper firm. The explosion, said to be in the refrigerating system, occurred at seven in the morning and resulted in the loss of two lives and serious injuries to eighteen occupants of the Cold Storage plant. Had the accident happened a short time later, when the Pilcher-Hamilton-Daily force was at work, the seriousness of the matter might have been materially increased. As it is the plant of the coarse paper jobbers was badly damaged, though the company is carrying on its full business activity while repairs are being made.

Publishers Discuss Newsprint Code

Newspaper men of the midwest gathered in Chicago this week for the two-day fall meeting of the Inland Daily Press Association and conferences of affiliated organizations. Among other meetings scheduled are those of the Newspaper Advertising Executive Association and the Agricultural Publishers' Association. Verne E. Joy, of Centralia, Ill., is president of the association. An afternoon session on October 16 was of primary importance to certain divisions of the paper industry in that the publishers gave a great deal of attention to newsprint codes and to the general situation in the newsprint industry. Recent information to the effect that a stabilized price on newsprint had been decided upon brought up an interesting discussion on the part of publishers from all parts of the Middle West.

News of the Trade

Merle Sears, president of the Merle Sears Box Company, of Danville, Ill., is in Chicago this week attending the seventeenth annual meeting of the Illinois Chamber of Commerce. Mr. Sears, widely known in the paper board industry, is a director of the second district of the Illinois Chamber of Commerce.

"A Study of the Specified Values of Color in Advertising," prepared by the Wrenn Paper Company, blotting paper manufacturers, continues to make an excellent reputation in Chicago advertising and printing circles. The book, characterized by many as an outstanding practical contribution to paper buyers from a member of the industry, contains the results of a study of over one thousand individual reactions to color preferences. It thus becomes a practical guide to advertisers always anxious to choose the color most likely to demand instant and pleasing attention.

A new catalog has been issued by the Smoot Engineering Company, of Chicago, describing in detail the newest development in Smoot regulators. The paper manufacturing industry has shown much interest in the catalog which contains specifications and interesting descriptive matter on the complete Smoot line of regulators. Smoot is a division of the Republic Flow Meter Company of this city.

S. H. Stapley Heads Connecticut Div.

HOLYOKE, Mass., October 23, 1934—Stephen H. Stapley of the Chemical Paper Manufacturing Company of this city has been elected divisional chairman of the Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association succeeding John P. Kennedy, also of this city.

Paper Demand Gains Steadily In Philadelphia

All Departments of Paper Industry Experience Considerable Improvement, With Both Fine and Coarse Paper Markets Displaying More Than Seasonal Betterment—Orders for Various Paper Specialties Growing—Paper Stock Section Continues Somnolent

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 22, 1934.—The momentum which was experienced here in the last few weeks in both branches of the paper industry—fine and coarse—has been steadily gaining, and it is the opinion of many with whom your correspondent talked, that this will be accelerated during the holiday season immediately ahead. Considerable betterment is shown in all branches, and specialties report growing orders—all of which tend to make this betterment more than seasonal.

The waste paper industry still remains somnolent, but is sanguine of what is to come. William Simmons, of John Simmons' Sons, regarded by all those in the trade here as one qualified to speak authoritatively, says that in his experience, November has always been a banner month, and with this in mind he is looking for an upturn which is bound to come.

Paper and Cordage Association Meets

A very representative group of the Philadelphia Paper and Cordage Association, Inc., gathered about heavily-ladened luncheon tables on the roof of the Adelphia Hotel on Friday last, and listened to a very interesting address by I. D. Gindhart, Jr., superintendent of the Commercial Department of the Keystone Telephone Company. In part, Mr. Gindhart said:

"Across the New City Hall in Camden, over the doorway facing the north, are these words: 'Without Vision the People Perish.' I am curious to know what inspired the architect to have that message engraved in stone. Was it to remind all who read that all progress in civilization is and has been the result of those who pioneered into the great unknown and did those things that were considered impossible? In the swift currents of our daily tasks we are prone to be forgetful of the pioneers of Science, Art and Industry. Regularly, we remember the birthday of a great statesman—an emancipator like Lincoln or the First President of these United States—Washington, but what of the discoverer of paper making, the founder of medicine or surgery. They are seldom mentioned and more often unknown."

Mr. Gindhart took his audience on an imaginary trip to the great Westinghouse and General Electric plant; the du Pont Chemical Company, the General Chemical Company, the Delaware River Bridge and the Independent Telephone System. He paid glowing tributes to the founders of these enterprises, all of whom he was pleased to refer to as pioneers. At the conclusion of his address, he was given a rising vote of thanks.

President George K. Hooper presided and welcomed into the membership the Molten Paper Company, 25 South 6th street to be represented by H. F. Donahue; the Champion Coated Paper Company and Champion Fiber Company, 570-6 Drexel Building, represented by Charles H. Labor; Raymond & McNutt Paper Company, 9th and Sansom streets, represented by Leonard Raymond and M. Christine; the J. P. Lewis Company, Beaver Falls, N. Y., represented by Erwin Brown, and Carl W. Magalthlin, 1015 Chestnut street, mill representative. With these latest acquisitions to its membership, there is practically one hundred per cent representation of fine paper houses, envelope manufacturers and twine houses in this section.

Paper Stock Code Committee Elected

At a joint meeting of the Waste Paper Division and Cotton Rag Industry, held during the week at the Lorraine Hotel, additional members of the local code committee were elected. The Waste Paper Division was presided over by Harry Bailey, of the Hemingway Company, and the rag dealers by James O'Neill. William J. McGarrity, Harry Bailey and Sam Parris were appointed members of the National Code Authority, and as such became members of the local committee, in addition to Louis Bantigoglio, Camden Paper Company, 259 Division street, Camden, N. J.; Pierre Sullivan & Son, 225 Wood street; Michael Dunn, 3344 Amber street, and Hugh McLeish, 2864 Orkney street. Dominic DiSanti and James O'Neill, representing the rag dealers, elected as provisional members for local enforcement when and as that group is organized Isador Beitchman, 234 Queen street, and George A. Di Ieuno, 5617 Race street.

Franklin Memorial Paper Exhibit

At the meeting of the Board of Governors of the Philadelphia Paper Trade Association, held on Thursday, President T. H. B. Smythe appointed Norbert A. Considine, chairman, together with W. S. Wilcox, of Wilcox-Walter-Furlong Paper Company; James A. O'Neill, Sr., of Paper Manufacturers, and W. B. Kilhour, Jr., Quaker City Paper Company, to act as an advisory committee in collaborating with the directors of the Franklin Institute, in developing a more extensive exhibit of all kinds of paper and paper products at the Franklin Memorial, located on Philadelphia's Parkway.

Superintendents Hold Fall Convention

Upwards of three hundred were in attendance at the Fall Convention of the Pennsylvania-New Jersey and Delaware Division of the American Pulp and Paper Mill Superintendents' Association, held on October 19 and 20 in the Hotel du Pont, Wilmington, Del. There was unanimity of opinion that this was an outstanding event in the annals of this association, due to the untiring efforts of Chairman S. M. Hesser, of Hinde & Dauch Paper Company, Gloucester, N. J.

The guest of honor at the banquet on Saturday night was Herbert W. Mason, president and general manager of Curtis Paper Company, Newark, Del. Notably present in the gathering were Joseph Harper, vice-president of Hinde & Dauch Paper Company, Sandusky, Ohio, and Benjamin Thomas, plant manager of the Container Corporation of America, Philadelphia. The election of officers for the ensuing year resulted as follows: Raymond E. Stearns, Container Corporation of America, Philadelphia, chairman; John H. Brougham, superintendent of Penn Fibreboard Company, York, Pa., first vice-chairman; Harry C. Busser, York Haven Paper Company, York Haven, Pa., second vice-chairman; Oscar Stametis, of Regal Paper Corporation, Reigelsville, Pa., third vice-chairman, and Walter Quinn, technical department, Container Corporation of America, Philadelphia, secretary and treasurer.

New England TAPPI Discusses Grading

The New England Section of the Technical Association of the Pulp and Paper Industry met at the Nonotuck Hotel, Holyoke, Mass., Friday evening, October 19. F. C. Clark of Skinner & Sherman, Inc., presided as chairman.

R. S. Kellogg's Birthday

In token of respect and appreciation of R. S. Kellogg on his sixtieth birthday, the Section members gave a rousing ovation. Mr. Kellogg has given much in time, interest and energy to the Technical Association and the industry.

C. W. Boyce on Codes

The first speaker was Charles W. Boyce, executive secretary of the Paper Industry Authority and the American Paper and Pulp Association, spoke on "The Operation of an Industry Under the Code." He first outlined the structure of the P. I. A. and its relation to the various trade associations. He then indicated the economic trends of the industry prior to the organization of the NRA.

In 1929 price cutting in the industry had reached a serious condition, and in July, 1932 the breaking of the kraft paper market was followed by a number of secondary crashes in other kinds of paper. The paper industry was in a difficult position by the end of 1932 and for the first five months of 1933. The NRA was welcomed by the industry, which was considering a code for its use even before the Act was passed on June 16, 1933.

Customers then believed that prices would go up and the result was a great speculative buying wave which in turn was followed by a period of low production ratio. However, during this period prices remained nearly constant for a longer period than was ever before experienced in the industry. At present the production ratio is 64 per cent and is increasing.

Such price cutting as there has been has been done by the smaller companies. If the big companies did not hold their prices steady the industry would become quickly demoralized.

The codes propose essentially, that all interests related to a problem sit down around a table and discuss it. This practice has been beneficial to all concerned and the industry has developed an industry-consciousness.

The industry is today 40 per cent larger than is necessary. TAPPI in the past has interested itself largely in production. What is needed today is the talent of the Technical Association directed toward the development of new uses of paper.

Mr. Boyce paid a tribute to the excellent work done by Stuart B. Copeland and the Pulp Producers Association in keeping the price of pulp stabilized.

In reference to the grading program of the industry, Mr. Boyce pointed out that this work will be continued irrespective of the changes that may take place in the codes because it is a fundamental need in the industry.

Paper Grading

The second speaker was John Strange, secretary of the Central Grading Committee, who outlined the history of grading in the industry. The interest in grading was given a great impetus by the symposium on grading at the annual meeting of TAPPI this year.

The need for trading is based on the necessity of preventing unfair competition through offtring a superior product for the same price. Posted prices mean little unless they are related to definite grades.

The grading committees of the various trade associations embrace the interests of sales, manufacture and the technical departments.

The development of new instruments such as the brightness tester is a feature of the grading program of the industry. Other instruments being developed are those for formation, glare and smoothness. Grading work is being carried on for book, sulphite, bond, groundwood, specialty papers and boards, sulphite, binders board and wood pulp.

The Central Grading Committee acts as an arbitrator when there is a difference of opinion between divisions of the industry regarding grades. At present seven of the ten members of the Committee are members of TAPPI and may be expected to maintain the highest ideals.

Those Who Attended

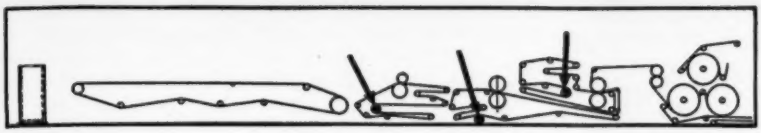
R. H. Doughty, Fitchburg Paper Company, Fitchburg, Mass.; F. C. Clark, Skinner-Sherman, Inc., Boston, Mass.; C. W. Boyce, P. I. A. Secretary, New York City; J. G. Strange, Central Grading Committee, PIA, New York City; F. A. Curtis, American Writing Paper Company, Inc., Holyoke, Mass.; W. O. Johnson, Strathmore Paper Company, Woronoco, Mass.; R. G. Macdonald, Secretary TAPPI, New York City; W. P. Richardson, A. D. Little, Inc., Cambridge, Mass.; R. C. Griffin, A. D. Little, Inc., Cambridge, Mass.; R. F. Driscoll, Smith Paper Company, Lee, Mass.; E. A. Richardson, Smith Paper Company, Lee, Mass.; H. M. Keating, Smith Paper Company, Lee, Mass.

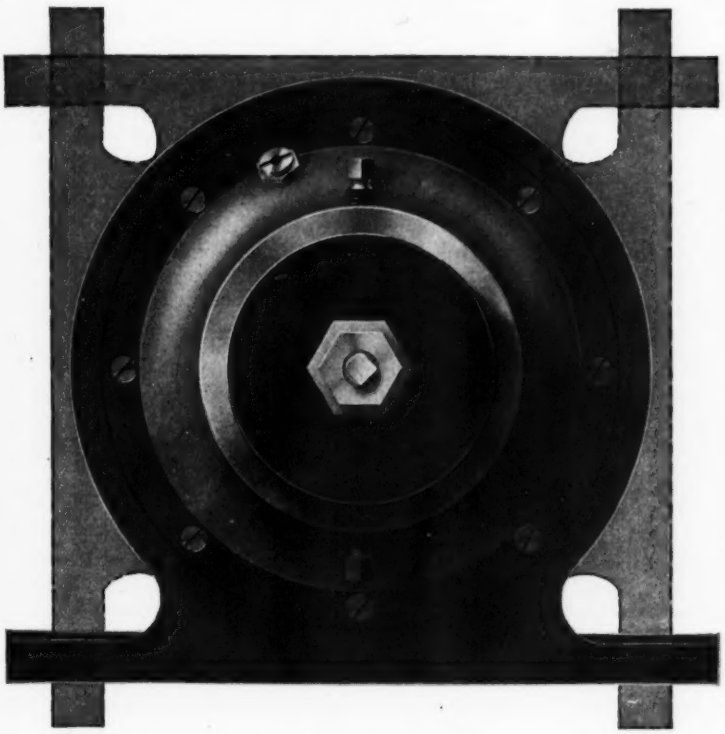
T. E. Boyne, Smith Paper Company, Lee, Mass.; C. H. Champion, R. T. Vanderbilt Company, New York City; F. H. Lovenberg, Mathieson Alkali Works, Providence, R. I.; L. H. Larson, R. T. Vandebilt Company, New York City; George Carroll, American Writing Paper Company, Holyoke Mass.; Harold Knight, Bulkley, Dunton & Company; New York City; Francis Gillispie, American Writing Paper Co., Holyoke, Mass.; Charles O'Neil, Castle-Overton Company, Holyoke, Mass.; Matthew V. Horgan, American Writing Co., Holyoke, Mass., C. Lawrence Reece, Whiting Paper Company, Holyoke, Mass. Chauncey Cooley, American Writing Paper Company, Holyoke, Mass.; John P. Kennedy, American Writing Paper Company, Holyoke, Mass.

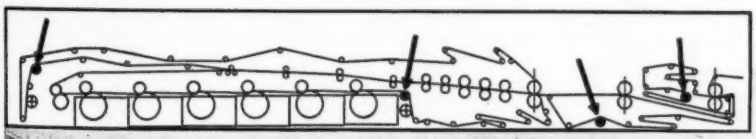
Clark H. Heritage, Oxford Paper Company, Rumford, Maine; Alfred F. Cosby, American Writing Paper Company, Holyoke, Mass.; Joseph A. Constance, Millers Falls Paper Company, Millers Falls, Mass.; Robert D. Thompson, Rising Paper Company, Housatonic, Mass.; Parker B. Holden, Rising Paper Company, Housatonic, Mass.; H. L. Mellen, Deerfield Glassine Company, Monroe Bridge, Mass.; R. A. Packard, Smith Paper Company, Lee, Mass.; L. A. Thompson, Papermakers Chemical Corporation, Holyoke, Mass.; P. W. Ayers, Smith Paper, Inc., Lee, Mass.; N. M. Kennedy, Penick & Ford Sales Company, New York City.

F. H. Leonard, Marble-Nye Company, Providence, R. I.; Charles Davidson, Jr., Whiting Paper Company, Holyoke, Mass.; R. L. Walsh, Whiting Paper Company, Holyoke, Mass.; James S. Brown, Smith Paper Company, Holyoke, Mass.; A. H. Hooker, Hooker Electrochemical Company, Niagara Falls, N. Y.; Stephen G. Stapley, Chemical Paper Company, Holyoke, Mass.; L. W. Crouse, Penick & Ford Sales Company, Springfield, Mass.; P. S. Bolton, Clinton Sales Company, Boston, Mass.; Cornelius Stapley, Chemical Paper Company, Holyoke, Mass.

DOWNINGTOWN







Fits Anywhere Anyway

As suggested by the illustration, the Downingtown Suction Felt Roll can be installed with the base bolted in any position. Since the roll itself is made as small as 10" in diameter (also 12" and 14") it will fit in any space where you now have a plain felt roll. This means you can now clean your felts where it will do the most good, using the same pump now used for flat suction boxes. No drive is needed. If you try one of the Downingtown Suction Felt Rolls, which continuously and uniformly wash and dry the full width of the felt without causing wear or stretch, we believe you will soon want one on every felt in your mill. The Downingtown Mfg. Co., Downingtown, Pa.

KEEP YOUR FELTS CLEAN WITH A SUCTION ROLL

R. E. Kilty, Staley Sales Corporation, Holyoke, Mass.; R. W. Kumler, Bennett, Inc., Wilmington, Delaware; D. K. Bartlett, Jr., American Writing Paper Company, Holyoke, Mass.; W. A. Nivling, Huron Milling Company, Boston, Mass.; W. J. Norton, American Writing Paper Company, Holyoke, Mass.; H. S. Greason, American Writing Paper Company, Holyoke, Mass.; R. W. Pattison, American Writing Paper Company, Holyoke, Mass.; C. W. Damon, Fitchburg Paper Company, Fitchburg, Mass.

William J. Burke, American Writing Paper Company, Holyoke, Mass.; S. D. Hellberg, American Writing Paper Company, Holyoke, Mass.; J. T. Leecock, American Writing Paper Company, Holyoke, Mass.; Helen U. Kiely, American Writing Paper Company, Holyoke, Mass.; Lena E. Kelley, American Writing Paper Company, Holyoke, Mass.; Charles Minor, Collins Manufacturing Company, N. Wilbraham, Mass.; C. J. Backus, Collins Manufacturing Company, N. Wilbraham, Mass.; Charles W. Perry, Esleeck Manufacturing Company, Turners Falls, Mass.

C. J. Yarber, Chemical Paper Company, Holyoke, Mass.; Milton Murray, Chapin & Gould Company, Westfield, Mass.; J. L. Merrill, Valley Paper Company, Holyoke, Mass.; Mrs. R. H. Doughty, Fitchburg, Mass.; Mrs. A. F. Cosby, Westfield, Mass.; Mrs. Charles O'Neil, Holyoke, Mass.; Mrs. Clark Heritage, Rumford, Maine.

Northeastern Division Meets

PORTLAND, Me., October 22, 1934—At the annual meeting of the Northeastern Division of the American Pulp and Paper Mill Superintendents' Association held at Hotel Waumbek, Jefferson, N. H., Oscar B. Ingalls, superintendent of the Pejepscot Paper Company, was elected chairman for the coming year.

Other officers were elected as follows: First vice chairman, Daniel J. Walsh, Parker-Young Company, Lincoln, N. H. second vice chairman, A. E. Fuller, Gilman Paper Company, Gilman, Vt.; third vice chairman, Thomas Farwell, Ryegate Paper Company, East Ryegate, Vt.; secretary-treasurer, A. Stephen Hocker, S. D. Warren Company, Cumberland Mills.

The guest speakers were Killey E. Terry of the S. D. Warren Company, president of the national association and a former president of the Northeastern Division, and Judge George L. Emery of the Maine Superior Court.

Papers were presented by Richard D. Kehoe of New York, M. B. Hall of Foxcroft, Mass., and John H. Noble of Nashua, N. H.

More than 150 members and friends were present at the sessions.

British Paper Market Spotty

Conditions in the British paper market have been normal for this season of the year. The esparto mills in Scotland have been running at about 90 per cent capacity, but prices are unremunerative and the smaller mills are reported not to be covering running costs. Exports on all classes of paper are lower than a year ago, while imports of paper are larger. Imports of paper-making materials, however, continue lower than a year ago, according to a report from Vice Consul Wallace E. Moessner, Manchester. Mills in the wrapping and packing paper group have been greatly benefited by the increased demand in the United Kingdom for paper for wrapping food-stuffs; more transparent wrapping papers, crepe papers, and corrugated containers are now being used than at any time in the past.

Southeastern Division Meets

[FROM OUR REGULAR CORRESPONDENT]

LYNCHBURG, Va., October 22, 1934—The southeastern division of the American Pulp and Paper Mill Superintendents' Association held their fall meeting Friday and Saturday October 12 and 13 at the Virginia Hotel.

Mills in Maryland, Virginia, North Carolina, South Carolina and Tennessee were represented and it was the largest meeting ever held in this division. S. C. Foster of Big Island, chairman of the division, called the meeting to order Friday morning and presented W. M. Heald, president of John H. Heald Company and member of Lynchburg city council. Mr. Heald welcomed the members on behalf of the city. W. H. Brydges of Big Island, general superintendent of the Bedford Pulp and Paper Company and past president of the American Pulp and Paper Mills Superintendents' Association, responded.

A paper on "Lubrication of Pulp and Paper Mill Equipment" was read by F. H. Buckholtz of the Standard Oil Company, Little Rock, Ark., and O. Deta, also of the Standard Company. Discussion followed.

R. C. Stratton, supervising chemical engineer of the Travelers Insurance Company of Hartford, Conn., read a paper on "Boiler Feed Water Conditioning." Demonstrations of the effect of different waters and treatments were made with chemical experiments. The paper was freely discussed.

A luncheon was served at the Virginian at 1 o'clock. Some of the delegates played golf at Boonsboro and others visited the Head paper mills and those at Big Island.

More than a hundred members and guests were present for the banquet and dance at the hotel at 7 o'clock. R. D. Ramsey, business manager of Lynchburg Chamber of Commerce, and M. E. Marcuse, president of the Bedford Pulp and Paper Company, were guest speakers. W. H. Brydges was toastmaster. George M. Trostel, vice-president of the American Pulp and Paper Mills Superintendents' Association, and Mr. Foster, responded to toasts.

Mr. Brydges stated that the next national convention would be held in this division next spring with the following places under consideration: Richmond, Asheville, Hot Springs and White Sulphur Springs. Dancing was enjoyed until 12 o'clock.

A paper, "Anti-Friction Bearings for Pulp an dPaper Mill Equipment," was read by A. L. Maltman, vice-president of the Fafnir Bearings, Inc., New Britain, Conn. This was freely discussed. A round table discussion on mill operation problems was led by Mr. Brydges.

Officers were elected as follows: E. Ryland Neblett of Standard Paper Manufacturing Company, Richmond, Va., chairman; Reuben B. Robertson, Jr., of Champion Fibre Company, Canton, N. C., first vice-chairman; B. K. Steadman of Standford Paper Manufacturing Company, Richmond, Va., second vice-chairman; and W. J. Burruss of Sonoco Products Company, Hartsville, S. C., secretary-treasurer.

Dry Mat Authority Appointed

[FROM OUR REGULAR CORRESPONDENT]

HOOSICK FALLS, N. Y., October 22, 1934—Announcement is made of the appointment of Jackson Townsend, president of the Wood Flong Corporation, to the code authority for the Stereotype Dry Mat Industry. Others who will serve on the same committee include W. Schorger, of Madison, Wis., A. B. Bradio, of New York City, and Henry Ingram, of Portsmouth, N. Y.

OTTAWA MAY IMPOSE NEWSPRINT PAPER CODE

(Continued from page 19)

and the low in 1934 was in February at 174,447 tons.

In the nine months ending September the Canadian output was 1,881,207 tons, an increase of 432,655 tons or 29.87 per cent. over the 1,448,552 tons produced in the like period last year.

Production figures for Canada for each month since the beginning of last year are as follows:

	Canada
1934	
September	196,172
August	216,164
July	208,238
June	229,637
May	242,539
April	216,507
March	210,129
February	174,447
January	188,374
1933	
December	175,304
November	193,718
October	191,452
September	179,416
August	194,262
July	180,387
June	171,419
May	171,776
April	147,759
March	137,078
February	125,916
January	140,539

Canadian Newsprint in the Orient

William B. Barclay, sales manager of the Powell River Company, according to a dispatch from Vancouver, is leaving on a four months' tour of Japan, China, and the Philippine Islands to investigate market possibilities in respect to newsprint and other paper.

Powell River Company has developed during the past five or six years an exceedingly valuable business in the Orient, especially in Shanghai and Hongkong, but its officials believe that the field is almost inexhaustible in sales possibilities. Increase in silver valuation has been of considerable benefit to Chinese buyers and while all Powell River Company's transactions are in sterling the feeling is that now and during the next few years China will be in the market for an increasing tonnage of newsprint. Especially since the embargo on Japanese goods China has shown an inclination to place a larger percentage of its orders with Pacific Northwest fills and to rely less on the Japanese mills which at best were a badly handicapped competitor of mills in this part of the world owing to inferior quality and higher costs.

An interesting feature of Powell River Company's Business with China has been the supplying of specially colored papers. Various colors have a special significance. Newsprint sent to some buyers, for instance, is stained red and used as "prayer papers." Some idea of the potentiality of the newsprint market may be gained from the fact that newsprint is used in China for purposes which in this country would require finer grades. School books and many literary books use newsprint exclusively.

Dryden Paper Improves Position

The financial statement of Dryden Paper Company, Dryden, Ont., for the fiscal year which ended September 30, is expected to reflect to some extent the improvement that has taken place in the company's business during the period that will be reviewed. It is stated that there has been a steady upward swing in sales volume and operations since the low point was reached in February last. Since that time, however, conditions have changed and, particularly in the last three months of the fiscal year, it is reported that the gain in earnings has been quite pronounced. Throughout the period of difficult conditions Dryden has been able to maintain a satisfactory financial position.

Indianapolis Demand Fair

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 22, 1934—Only a fair demand was seen in the local paper market this week. The trade is not discouraged, however, for some previous inquiries have brought results and the volume of inquiries holds up well. Some grades seem to move well, but others are slower than they were a while back. However, the general volume is holding its own with the levels that market the beginning of the fall season. Prices in virtually all grades are well maintained. A considerable interest is apparent in the new NRA setup. The local trade is considerably in the dark and few can be found who will hazard a guess on what will happen in the next few months. All congressmen and one senator are to be elected this year and the trade is taking a more active interest in politics than it has.

Many leaders in the trade attended a meeting here last week which was addressed by Donald Richberg, President Roosevelt's chief counselor in the recovery program. Mr. Richberg reassured both the business man and the consumer that there were no "threats of sweeping changes or the application of any novel theories" contemplated by those at the head of the recovery program. He indicated that the movement to raise prices, mentioned recently by the President, would proceed with caution. He admitted a widespread hostility toward the NRA program but reminded his audience that there had been no widespread disorders as a result of the depression and that the various state and national governments still were functioning under their constitutional safeguards of "individual liberty and social security."

Inquiries for fine paper during the week indicate there will be some revival in business in these lines. Books and covers are moving, but slowly. The newsprint situation is little changed.

Paper stock men report a light mill demand, particularly for the lower grades of paper. Quotations are unchanged. Higher grades seem to have the call from the mills.

Acquires Goldschmidt Forsterite Patents

The Harbison-Walker Refractories Company has announced the acquisition of the American rights to the forsterite patents of Goldschmidt and his associates through an exclusive royalty granted by Doctor Victor M. Goldschmidt of Göttingen, Germany. These patents cover refractories made of olivine and of the other magnesium silicates. Included in the group are more than a dozen United States and Canadian patents.

Forsterite has a melting point of 1910° (3490° F). It is the only magnesium silicate which will remain stable at the temperature at which many industrial furnaces operate. Forsterite has the chemical formula 2 MgO: SiO_2 and is the principal constituent of the more refractory olivines.

Obituary

Donald L. McLeod

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 20, 1934—Donald L. McLeod, assistant general manager of the Ontario Paper Mills, Thorold, Ont., died in the hospital at St. Catharines on October 18 of internal injuries received from falling from a horse at the St. Catharines Riding and Driving Club. Born in Prince Edward island in 1889, Mr. McLeod was educated at Prince of Wales College, P. E. I., and McGill University, Montreal, graduating with a B. Sc. degree. He had a fine war record, going overseas as a member of the Princess Pats, transferring later to the Royal Engineers, and serving four years in uniform. His industrial record is also notable, commencing with Price Bros. in their Kenogami mill in the research department, and then going to the research department of the Abitibi Power and Paper Company at Iroquois Falls for four years. He returned to Price Bros. as groundwood superintendent at the River Bend mill for two years; spent two more years at the Price Kenogami mill as paper mill superintendent and come to the Ontario Paper Co. four years ago as assistant general manager. He was past chairman of the Technical Section of the Canadian Pulp & Paper Association and this year was elevated to a representative position on the administrative committee. His wife and two young sons survive.

Ross Campbell

Ross Campbell, head of the chemical department of the pulp division of the Buckeye Cotton Oil Company, Memphis, Tenn., died on October 13 at the Baptist Hospital, Memphis, following a two weeks' illness. Mr. Campbell entered the hospital October 1 in a coma, suffering from diabetes. He improved and was apparently getting well when he suffered his final attack.

He was 42 years old and was considered to be a pioneer in the field of manufacturing of rayon and cellulose derivatives, from cotton linters, and helped much to develop it. He has been in Memphis for the past twelve years.

Mr. Campbell was born in Holyoke, Mass., and is a graduate of the Massachustts Institute of Technology and was formerly a research chemist at the American Writing Paper Company. At Memphis he was in charge of a staff of fifteen research and control chemists.

Soon after going to Memphis he married Mrs. Nell Erskine and is survived by his wife; two stepchildren Jane and Albert R. Erskine, Jr.; and his mother, Mrs. Ellen Campbell of Holyoke. He was a member of the Episcopal Church.

Joseph Swan

DAYTON, Ohio, October 22, 1934—Joseph Swan, head of the research department of the Gardner-Richardson Company, Middletown, died at Christ Hospital, Cincinnati, on October 15, of injuries received in a glider crash at Crosley airport, in Sharonville, in the southern part of the Miami Valley.

Mr. Swan, a member of the Glendale Glider Club, was at the field with John T. Manley and James C. Richardson III, fellow members of the club, and Mrs. Richardson, all of Glendale. Mr. Mantley had completed a successful flight in the glider.

Frank Sterwers, caretaker at the airport, said Mr. Richardson was towing the glider with Mr. Swan at the controls. As he cut loose at a height of about 200 feet, Swan apparently tried to make a left turn, from which he went into a spin and crashed, according to the caretaker. Physicians who were called, said that Mr. Swan had suffered a fractured skull and body bruises.

Members of the Glider Club reported that an examination of the glider following the crash failed to disclose any mechanical or structural defects. It was their belief that Mr. Swan had not attained sufficient flying speed when he cut loose from his tow.

Mr. Swan was widely-known in paper trade circles and his death is deeply deplored. He was an enthusiastic sportsman.

George I. Dove

PORTLAND, Ore., October 20, 1934—George I. Dove, for many years a salesman for Blake, Moffitt & Towne in Portland, died suddenly on September 20, 1934. His death resulted from a minor operation from which unforeseen complications developed. When the seriousness of a hemorrhage became evident, a number of the employees in the Blake, Moffitt & Towne organization offered themselves for a blood transfusion, David Gotthardt being selected. This, together with all that medical science could do failed to save his life.

Mr. Dove was born in Portland, Ore., November 17, 1873. He was a passenger on the first trip of the steamboat "Elder" to Alaska at the beginning of the Gold Rush in 1897. He resided in Alaska for several years. After returning, he entered the employ of the Crescent Paper Company as salesman when this company was founded in 1905. He remained with this firm until it was purchased by Blake, Moffitt & Towne in 1925 in whose employ he remained continuously until his death.

Mr. Dove's experience in paper activities made him well known in the northwest and he enjoyed the confidence of his trade as well as that of his fellow employees.

George W. Batz

George W. Batz, former president of the Metropolitan Bag and Paper Jobbers Association and active in civic and fraternal organizations on Staten Island for many years, died at the Staten Island Hospital at New Brighton, S. I., on Wednesday night, October 17, after several days' illness. He was 64 years old.

Mr. Batz, whose home was at 79 Dixon Avenue, Tompkinsville, conducted a wholesale paper and twine business on Staten Island for fifty years. He was born in Tompkinsville and was a member of an old Staten Island family. He was president of the Tompkinsville Board of Trade and the Staten Island Rotary Club and former director of the Staten Island Chamber of Commerce and the Tompkinsville Building Loan and Savings Association.

He was prominent as a Mason. Surviving are his widow, Mrs. Margaret Van Riper Batz; two daughters, Mrs. Vivian J. Brien and Miss Helen Batz, and a son, Kenneth.

Fiber Insole Board Developed

[FROM OUR REGULAR CORRESPONDENT]

DANVERS, Mass., October 22, 1934—The Fibre Products Laboratories here have just made in this country a fiber insole board for shoes, similar to the grade which Henry P. Shopneck, one of the owners of the concern, developed for the Russian Govrnment when he was in Russia a few years ago. The Board has been marketed to a certain extent and successfully. The outlook for it is very good. Spaulding & Tewksbury Company, Boston, is a distributor for products of the Laboratories.

OUTLASTS 11 COMPETITIVE BELTS

Goodyear COMPASS (Cord) Endless Belt "does its stuff" on digester pump drive

• • •

CUTS BELT COSTS 72%

TALK about belt-killing drives! In an eastern paper mill its 200 H.P. motor-driven digester pump had worn out 11 successive belts in 598 days.

The best of the lot gave 175 days' service; the poorest only 10. The average was 54.3 days, and there had been frequent delays due to break and stretch.

Then the G. T. M. — Goodyear Technical Man — entered the picture. He went over the set-up from A to Z; noted that severe oil conditions existed, that there was no idler, screw take-up regulating the tension.

To meet these conditions he specified a Goodyear Double COMPASS (Cord) Belt—20" x 35'7" Endless Length—the most nearly stretchless belt made, specially designed by Goodyear for hard, fast drives.

LASTS 635 DAYS

Installed in July, 1932, this belt gave 635 days' continuous service — *and in all that time, after the initial adjustment for tension, it was never necessary to touch the screw take-up.*

More than *three* times longer service than the next best belt! More than *ten* times the average life of its eleven predecessors! And the Goodyear COMPASS cost only 28% of the total cost of the others — a clear saving of 72%!

Does it pay to consult the G. T. M.? This mill certainly thinks so now. Why not talk over your difficulties with him. To get in touch with him, write Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.

BELTS
MOLDED GOODS
HOSE
PACKING

OTHER GOODYEAR PRODUCTS FOR PAPER MILL SERVICE

Goodyear Rubber Rollers

Goodyear Style M Paper Machine Hose

Goodyear Air Hose, Water Hose

Goodyear COMPASS Endless Belt, both Single and Double Construction

Goodyear THOR Belt, Seamless

Made by the makers of Goodyear Tires

THE GREATEST NAME IN RUBBER

GOODYEAR

NRA CODE

New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has announced that the following have been elected to membership:

John J. Brossard, vice president in charge of production, Container Corporation of America, Chicago, Ill., attended Washington University and was for 21 years sales manager and assistant general manager of the Fort Wayne Corrugated Paper Company, Fort Wayne, Ind.

Ronald W. Hynes, superintendent, Newton Falls Paper Company, Newton Falls, N. Y.

R. D. Kehoe, president, Paper and Industrial Appliances Inc., New York, N. Y.

P. M. Loddengaard, Bulkley, Dunton & Co., New York, was formerly vice president of the Continental Paper Company, Bogota, N. J., vice president the Melrose Paper Supply Comapny; Robert Gair Company Inc., and is an expert in the waste paper industry.

John C. Tongren, student, Institute of Paper Chemistry, Appleton, Wis., is a graduate of Pennsylvania State College.

George L. Schwartz, chemist, Experimental Station of E. I. du Pont de Nemours & Co. Inc., Wilmington, Del., is a 1917 graduate of University of Washington, was formerly a pharmacist for the Lang Drug Company, Seattle, Washington, and a chemist at the Forest Products Laboratory, Madison, Wis.

Ralph W. Shaffer, assistant superintendent at Mac Andrews & Forbes Inc., Camden, N. J. was formerly an inspector for the Victor Talking Machine Company at Camden, N. J.

B. Ragnar E. Soderqvist, in charge of the central laboratory of Stora Kopparberg A/B, Falun, Sweden, received his doctor's degree from the University of Lund in 1924. In 1924 he was an American-Scandinavian fellow at the Forest Products Laboratory, Madison, Wis.

Raymond D. Sollars, lubrication sales engineer, Associated Oil Company, Portland, Ore., is a 1919 graduate of the U. S. Naval Academy and was formerly assistant chief engineer of the American Smelting and Refining Company, Tacoma, Wash.

Melvin R. Ware, superintendent of the paper, millboard and allied division of Keasby & Mattison Company, Ambler, Pa., was formerly engineer and superintendent of the Roanoke Fibreboard Company, Roanoke Rapids, N. C.; manager, White-Hall Paper Company, White Hall, Md.; engineer-superintendent, Daring Paper Company, Bridgeport, Pa.; consultant, Mills Machine Company, Lawrence, Mass.; manager, Bartgis Brothers Company, Ilchester, Md.; and consultant, Johns-Manville Corporation, New York.

Will Not Review M. & O. Paper Co. Case

The Supreme Court has denied a contract creditor a review of a lower court decision which upheld the sale by receivers of the Minnesota and Ontario Paper Company of stock in the *Memphis Commercial Appeal, Inc.*

The receivership case was one which was aired before the Senate special committee investigating receiverships during the last session of Congress.

At that time, Senator Ashurst, chairman of the committee, suggested to opponents of the sale that relief should be sought in the courts.

The shares of the Memphis paper sold by the Minnesota and Ontario Paper Company represented an investment of $2,000,000 and the sale price was fixed at $300,000.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 22, 1934—The new Strathmore Handbook, one of the most complete and elaborate issued by the Strathmore Paper Company, West Springfield, Mass., bearing the imprint of the four Boston firms handling the Strathmore papers, is now being distributed to printers and advertisers throughout New England. The interesting feature of the book is a key which indicates at a glance the price range into which a particular paper falls. In keeping with modern methods, the books are being delivered by Western Union messengers who ask the recipients to sign a card, which is later returned to the Strathmore Company.

The Marvellum Company, Holyoke, Mass., manufacturer of box coverings, of which Henry L. Goodman is a local distributor, has issued two new books, Nos. 87 and 88. No. 87 contains two swatches of Rayon Papers —flash embossed in white, buff, light green, lavender, light turquoise, pink, Nile green, magenta, turquoise, scarlet and dark blue and crystal embossed except for light turquoise Nile green and scarlet in the same colors and also light gray, peach, green and orange. No. 88 has a swatch of Embassy Papers in light green, green, dark green, turquoise, light blue, dark blue, light yellow, dark orange, buff, brown lavender, violet, light gray, dark gray, pink and scarlet.

Arthur M. Burr, New England sales manager for the Cayuga Linen & Cotton Mills, Inc., manufacturers of twine at Auburn, N. Y., left last evening for a two days' visit to the plant.

George D. Allen, of Knight, Allen & Clark, Inc., is confined to the house by illness.

Frank H. Winter, sales manager of Carter, Rice & Co., Corp., is passing a two weeks' vacation in New Hampshire.

R. S. Madden, a vice-president of the American Writing Paper Company, Holyoke, Mass., visited the local office of the company and C. W. Howarth, secretary of the Columbia Box Board Mills, Inc., Chatham, N. Y., and A. C. Remley, vice-president and general manager of the Patten Paper Company, Appleton, Wis., called on the trade last week.

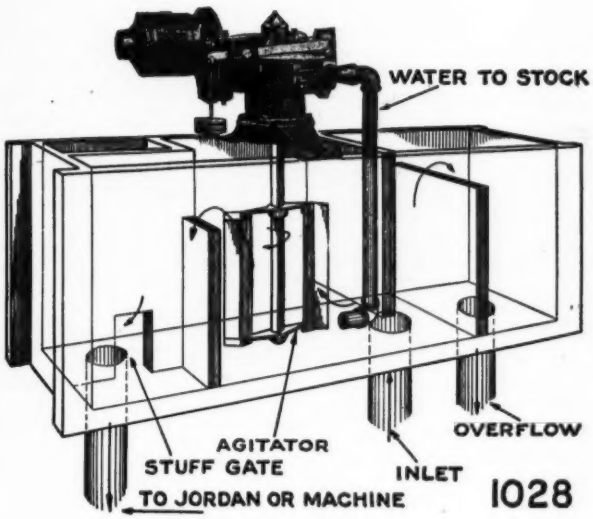
Newsprint for September

Production of newsprint in Canada during September 1934 amounted to 196,172 tons and shipments to 195,320 tons according to the Newsprint-Service Bureau. Production in the United States was 74,117 tons and shipments 70,941 tons, making a total United States and Canadian news print production of 270,289 tons and shipments of 266,261 tons. During September 25,847 tons of news print were made in Newfoundland and 1,750 tons in Mexico, so that the total North American production for the month amounted to 297,886 tons.

The Canadian mills produced 430,947 tons more in the first nine months of 1934 than in the first nine months of 1933, which was an increase of 30 percent. The output in the United States was 26,143 tons or 4 percent more than for the first nine months of 1933, in Newfoundland 45,341 tons or 24 percent more, and in Mexico 2,893 tons more, making a net increase of 505,324 tons, or 21.5 percent.

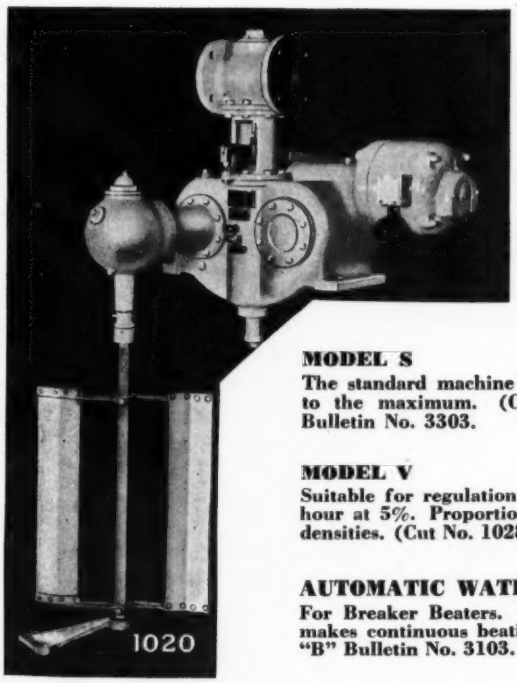
Stocks of news print paper at Canadian mills are reported at 61,903 tons at the end of September and at United States mills 23,702 tons, making a combined total of 85,605 tons compared with 81,577 tons on August 31, 1934.

MEYERS-MESCO
STOCK CONSISTENCY REGULATORS
DO REGULATE



MEYERS-MESCO CONSISTENCY REGULATORS

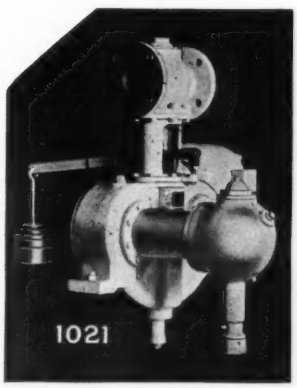
respond INSTANTLY to variations in density and are guaranteed to automatically and continuously maintain consistency within one-eighth of one per cent of any density within its range. As WEIGHT CONTROLLERS they are capable of maintaining sheet weight within 2.5 per cent of basis. Weight variations not only result in commercially unacceptable product, but affect formation drying action and moisture content. Meyers-Mesco Regulating Equipment is the most reliable and accurate means of density control obtainable.



MODEL S
The standard machine for requirements up to the maximum. (Cuts No. 1020-1021) Bulletin No. 3303.

MODEL V
Suitable for regulation up to 2000 lbs. per hour at 5%. Proportional capacity at lesser densities. (Cut No. 1028) Bulletin No. 3305.

AUTOMATIC WATER FEEDER
For Breaker Beaters. The instrument that makes continuous beating a success. Model "B" Bulletin No. 3103.



MERRITT ENGINEERING & SALES CO.
LOCKPORT, N. Y.

New 75 Ampere Welder Announced by Lincoln

Demands for an arc welder which can be used on thin sheets, plates and shapes are met by a new small motor-generator unit announced by The Lincoln Electric Company, Cleveland, Ohio. This new welder can be supplied for use on any alternating current power line including 110 volt circuit. In addition to these features it is priced within reach of the average small metal-working shop, which in the past has been compelled to rely on less efficient and more costly methods of welding.

The makers claim this new welder, known as the SA 75, is the first unit ever built which will deliver as low as 20 amperes at the arc without the use of auxiliary devices. As a result of this, an entirely new field of application for arc welding is opened up.

As no preheating is necessary in making arc welded repairs, damaged cylinder heads can be repaired without removing the engine from the car. With former methods of welding used for this sort of work, it has been necessary to remove and completely dismantle the engine, because of the danger of damaging bearings and other parts due to necessity for preheating.

Since it supplies a uniform current of proper characteristics for using electrodes as small as 1/16 inch, this new welder can be employed by metal-working shops and industrial plants on materials as light as 24 gauge. In the past, with the equipment which has been available, it has been necessary when welding thin sheets, plates and shapes either to put resistance on larger arc welding machines, thereby increasing power costs, or else use less efficient methods of welding. With the new welder it is possible to produce in light materials welds of the same uniformly high quality as that regularly obtained on heavier materials with the shielded arc process of welding.

The new SA 75 welder is of AC motor-driven type employing a 25 volt arc with a current range of 20 to 100 amperes. The generator is of single operator variable voltage type with 75 ampere N.E.M.A. rating. The motor installed is the Lincoln "LincWeld" 3 horsepower squirrel cage induction type for across-the-line starting. The welder is supplied for alternating current 110 and 550 or special voltages; 3, 2 or 1 phase; 60 and 50 cycles as desired. Connections are also readily available for 220 or 440 volts. Easy welding is assured by patented dual control which provides independent adjustment of open circuit voltage and welding current.

Less than 2¼ square feet of floor space is required for this new welder. It is 20 inches long, 16 inches wide and 40 inches high. Arc welded steel is used to fullest extent in construction. The machine can be arranged to be moved on two small wheels mounted on the base, and is completely wired ready for operation when connected to the power line.

Weekly Production Ratio Report

Reports to the Paper Industry Authority show the folowing Over-All Industry Production Ratios for designated weeks:

	Reporting Mills		Total Production Ratio
	Number	Capacity	
*Week ending September 1, 1934	269	107,121	75.7%
*Week ending September 8, 1934	291	107,676	52.5%
*Week ending September 15, 1934	287	112,372	58.3%
*Week ending September 22, 1934	291	119,926	60.8%
*Week ending September 29, 1934	292	125,407	64.3%
*Week ending October 6, 1934	290	117,985	64.7%
*Week ending October 13, 1934	233	85,188	62.3%

The weekly paper capacity (based on 6 days of 24 hours each) for all mills operating wholly or partially under the General Code for the Paper and Pulp Industry is approximately 175,000 tons. This figure has been tabulated from mill questionnaires and in certain instances from daily capacities given in Lockwood's Directory of the Paper and Allied Trades.

Detailed statistics showing the number of mills reporting by ratio groups are given below:

	NUMBER OF MILLS REPORTING Week Ending						
	Sept. 1	Sept. 8	Sept. 15	Sept. 22	Sept. 29	Oct. 6	Oct. 13
Ratio Limits	1934	1934	1934	1934	1934	1934	1934
0% to 50%	117	147	128	112	103	110	94
51% to 100%	152	144	159	179	189	180	139

* Subject to revision.

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours" were as follows:

Week ending September 8	53 per cent
Week ending September 15	67 per cent
Week ending September 22	62 per cent
Week ending September 29	64 per cent
Week ending October 6	64 per cent
Week ending October 13	64 per cent

Revised statistics covering delinquent mill returns will be shown in later reports.

Bagley & Sewall Co. Changes

WATERTOWN, N. Y., October 22, 1934—A number of directors of the Bagley & Sewall Company, resigned at a meeting held here last week. An official of the company declared that the vacant posts would be filled by members of the organization in the near future. Among those severing connections are Allan M. Perkins, who was assistant to the president, Raymond G. Hannahs and Harold W. Conde. All resignations were submitted to the other members of the board and accepted. The resignation of Mr. Perkins came simultaneously with his resignation as assistant to the president. Mr. Perkins had been connected with the company for nearly two years and had made many friends in this section since locating here. He came here from Greenwich, Conn., in the spring of 1933, and in addition to his business connections has also been prominent in social circles. He is a prominent member of the Jefferson County Golf Club and the Black River Valley Club. Harold W. Conde, who also resigned, is president of the Conde Hardware Company and it is understood that pressure of other business caused him to sever connections. Raymond G. Hannahs has been prominently identified with business life here for several years. Messrs. Conde and Hannahs have both been directors of the company for about two years.

Proposed Trade Agreements

WASHINGTON, D. C., October 24, 1934—Hearings are being held this week before the special committee appointed by the State Department to hear testimony in connection with proposed trade agreements. This week the hearings are being devoted to several South and Central American countries.

While no oral testimony has been presented, by the paper industry, S. L. Willson, president of the American Paper and Pulp Association, has filed a statement on behalf of the paper industry. Among other things this statement points out that these South and Central American countries are normal markets for the export market of the United States and suggests that these countries should be encouraged to buy paper from the United States which country buys large quantities of various commodities from them. Warren B. Bullock, is attending the hearings as an observer on behalf of the American paper industry.

because somebody *knew* that ROSS SERVICE covers the *minor* as well as the major equipment

1 Mill managers had prepared a layout covering proposed ventilation of a laboratory building — considered a minor equipment job.

2 Before proceeding, Ross engineers were asked to recommend their own layout and estimate cost based on both layouts.

3 Result—job went ahead on new arrangement recommended by ROSS at *less than half the cost* originally anticipated.

SCORES of instances like the one described could be cited to show that Ross service on even the smallest job or individual piece of apparatus frequently results in definite savings to mills — savings not only of money, but of time and trouble as well.

The majority of mills have for more than twenty years been utilizing the specialized experience, knowledge and facilities of the Ross engineering staff for all their *major* requirements in connection with complete heating, ventilating, drying and air conditioning installations.

More mills should utilize these same advantages in connection with all their *minor* requirements. Such work is an important element of the reliable ROSS service to mills. Whether the need is for an individual fan, heater, or sheet metal job—get the Ross recommendation and estimate on cost.

We Invite Your Inquiries . . . They will Be Given Prompt Intelligent Attention

IN ADDITION TO THE COMPLETE ROSS INSTALLATIONS

•

Individual Fans—any size
Unit Heaters—Floor, and Suspended Types.
Calender Cooling Apparatus
Motor Cooling Apparatus
Felt Drying Equipment
Slitter Dust Removal
Loft Drying Equipment
Locker Room Ventilation
Trim Conveying Apparatus
Automatic Control for Machine and Finishing Rooms
Water Heating Equipment for Fresh or White Water and similar equipment

J. O. ROSS ENGINEERING CORPORATION

Main Office—350 Madison Ave., NEW YORK

201 North Wells Street CHICAGO
12953 Greeley Avenue DETROIT
2860 N. W. Front Avenue PORTLAND, ORE.

ROSS ENGINEERING OF CANADA, LIMITED
NEW BIRKS BLDG., MONTREAL

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Mobile, Ala.—The Kraftliner Gumming Corporation, recently organized under New York laws, Arnold Jacoby, 1514 56th street, Brooklyn, N. Y., general manager, has taken over property at Mobile, and will remodel and improve for new paper converting plant to specialize in the production of gummed kraft paper products, such as paper tape, stickers, etc., in wide variety of widths up to 48 inches. Initial mill will be equipped for a capacity of about 900 tons of finished paper goods per month, and will have facilities for printing on gummed stocks, according to customers' requirements. Kraft paper will be secured from local mill of the Southern Kraft Corporation, which is understood to be interested in new company. Plant will cost over $100,000, including equipment and is scheduled to be ready for service at early date.

Brooklyn, N. Y.—The Belmont Paper Box Company, Inc., 383 Third avenue, Brooklyn, manufacturer of paper boxes and containers, has concluded arrangements, through its affiliated interest, P. R. Realty Corporation, for purchase of six-story factory at Greenpoint and Kingsland avenues, Greenpoint district, Queens Borough, and will take over property at once. Building totals about 100,000 square feet of floor space, of which about 40,000 square feet will be used by the Belmont company for a new plant. It is proposed to remove present factory to new location at early date, increasing capacity.

Newark, N. J.—The W. B. Paper Box Company has been organized with a capital of $100,000, to manufacture paper boxes and containers of various kinds. New company will take over organization of the same name, with local plant at 146 Summit street. The incorporators include Pascal and Emil Scurazo.

Minneapolis, Minn.—The B. F. Nelson Manufacturing Company, Main street, N.E., manufacturer of paper boxes and containers, paperboard specialties, etc., has completed plans for new one-story addition to plant, for storage and distributing service, and will begin superstructure at early date. Alterations and improvements will also be made in present factory. Project is reported to cost over $25,000, with equipment.

Chicago, Ill.—Marvin Advertising Company has filed notice of change of name to the Marvin Envelope & Paper Company, 439 South Clark street.

Mobile, Ala.—The Continental Paper and Bag Corporation, 220 East 42nd street, New York, N. Y., has work under way on new plant at Mobile and will push work to early completion. New unit will be one-story, about 100 x 500 feet, and will be equipped for the manufacture of heavy kraft paper bags for cement and kindred service. It is understood that about 30 bag-making machines will be installed. Plant will have facilities for employment of over 200 workers and is estimated to cost in excess of $150,000, with machinery. Company is affiliated with the Southern Kraft Corporation, with local mill at Pleasant Point, a suburb of Mobile, and will secure paper supply from that source.

New York, N. Y.—Hatters' Oakhide Boxes, Inc., has been formed with capital of 200 shares of stock, no par value, to operate a local plant for the manufacture of heavy paperboard boxes for hat service and kindred containers. New company is represented by Jacob Markowitz, 401 Broadway, New York.

Newark, N. J.—The Sanitary Products Corporation, 343 Sansome street, San Francisco, Cal., a subsidiary of Crown Zellerbach Corporation, same address, manufacturer of paper products, has leased a floor in building at 173 Frelinghuysen avenue, Newark, totaling about 5000 square feet floor space, and will occupy for new local branch plant for storage and distributing service. Possession will be taken at once. Company has been located at 271 Badger avenue, Newark, and will remove to new location, increasing operating facilities.

New York, N. Y.—The T. E. Boyd Paper Company, Inc., 74 Duane street, has filed notice of company dissolution under state laws.

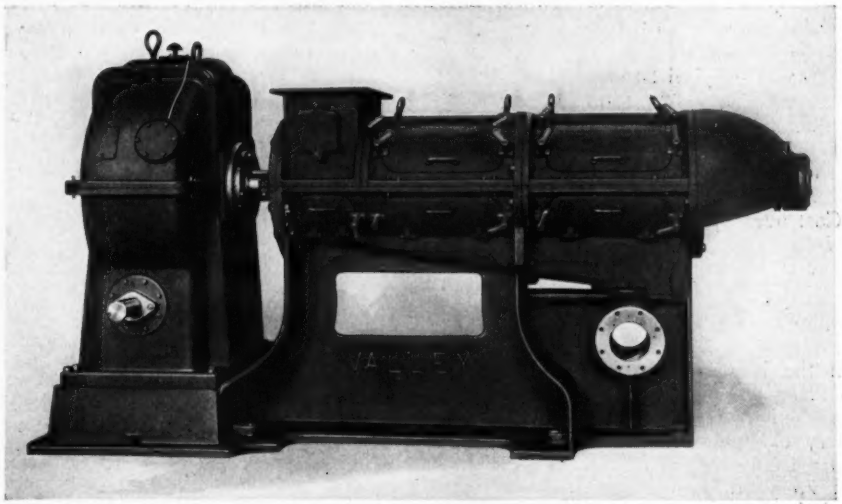
Baltimore, Md.—The Maryland Waste Company, 1550 Ridgely street, paper stocks, has leased a new one-story building, 38 x 75 feet, to be constructed by the Baltimore & Ohio Railroad Company at 1810 Worcester street, and will occupy for new storage and distributing plant. General building contract for structure has been let to Frederick Stein, 17 South Washington street, and work will be placed under way at once.

Covington, Ky.—The Triangle Paper Bag Manufacturing Company, 943 West Sixth street, Cincinnati, Ohio, manufacturer of paper bags and containers, is perfecting arrangements for proposed new plant at Covington, recently referred to in these columns, and will proceed with erection in near future. New unit will be one-story, 80 x 120 feet, and is reported to cost close to $35,000 including equipment. L. B. Goldinger, 2 LeRoy court, Cincinnati, is architect, in charge.

Ironwood, Mich.—The Marathon Paper Mills Company, Menasha, Wis., has work under way on alterations and improvements in sawmill property at Ironwood, used for pulpwood supply, preparatory to operations during late fall and winter months. New machinery and equipment will be installed. It is expected to develop the plant, formerly owned by the Scott & Howe Company, to maximum capacity.

Louisville, Ky.—Fire recently damaged a portion of storage and distributing building of the Acme Paper Stock Corporation. An official estimate of loss has not been an-

A Feather For Somebody's Cap



THE installation of a piece of new equipment can generally be traced back to some, one individual who makes the initial investigation . . . . rounds up the facts . . . . and does the necessary missionary work to bring about consideration of the machine's purchase. The man who exercises such initiative is entitled to much of the credit for whatever lowered costs and improvements that result. It is a "feather in his cap."

If you are a man who is on the lookout for new methods which will benefit your mill, we say this to you: Write us for full information about the money-saving possibilities of the Valley-Voith Screw Press. We will send you complete facts. These facts will be of such a tangible, practical nature that you can determine definitely, in advance, what results can be expected from the Screw Press. Then you can take action accordingly.

VALLEY

IRON WORKS COMPANY

Plant: Appleton, Wisconsin

New York Office: 350 Madison Ave.

Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Beaters • Jordans • Voith Stock Inlets • Roll Wrapping Machine • Pumps • Deckers
Screw Presses • Laboratory Equipment • Plug Valves • Flat and Rotary Screens
Automatic Felt Guide • Hypoid Gear Drives • Voith Kneader

nounced, but is reported as slight. The damage will be replaced.

Green Bay, Wis.—The Fort Howard Paper Company has approved plans for two new additions to mill, each one-story, 60 x 120 feet and 50 x 75 feet, respectively, and will place superstructure under way at early date. General building contract has been let to the Selmer Company, 305 East Walnut street, Green Bay. Cost over ly $35,000, with equipment.

Daytona Beach, Fla.—Tropical Stencils, Inc., recently organized with capital of $250,000, to manufacture special composition paper stencils for duplicating work, has taken over property at 822 Ballough road, and will remodel and equip for new plant. Machinery will be installed for initial output of about 600 quires of finished stencils per day. Cost over $40,000, with equipment. New company is headed by Wade Hampton and Frank Hyland, both of Daytona Beach.

New York. N. Y.—Several inaccuracies occurred in the report regarding the Butterfield-Barry Company printed under a Hackensack, N. J., date line in the Construction News in the issue of October 1. Ralph F. Barry, president of the company writes: "The Butterfield-Barry Company of New Jersey is a successor of the Butterfield-Barry Company of New York and proposes to continue the same line of business that we have been for the past 75 years at our present address in New York City, 174 Hudson street;—the only difference being that we are incorporated in the State of New Jersey and intend to dissolve the corporation in the State of New York."

New York, N. Y.—The K. & K. Paper Box Company, Inc., recently organized, plans operation of local plant for the manufacture of paper boxes and containers. New company is headed by Meyer Kahn, 3064 East Seventh street, Brooklyn, N. Y., and Morris Katzenbogen, 1427 Wilkins avenue, Bronx, New York.

Indianapolis, Ind.—The Indianapolis Paper Container Company, manufacturer of paper boxes and containers, has taken out a permit for one-story addition to plant. Estimated cost has not been announced. Work will be placed under way at once.

St. Joseph, Mich.—The Mullen Container Corporation, manufacturer of waxed-lined paper specialties, including butter dishes, etc., is operating on active production schedule, totaling about 5,000,000 container units per month. Large working force is employed. It is proposed to continue on present basis for an indefinite period. The plant was established about a year ago.

Covington, Ky.—The Triangle Paper Bag Manufacturing Company, 943 West Sixth street, Cincinnati, Ohio, manufacturer of paper bags and containers, has taken out a building permit for proposed new plant at Covington, recently referred to in these columns, where site has been selected at 1301 Madison avenue. New factory will be one-story, 80 x 120 feet, and is estimated to cost approximately $35,000, including equipment. Building awards will soon be made and superstructure placed under way. L. B. Goldinger, 2 LeRoy court, Cincinnati, is architect.

Brooklyn, N. Y.—The Schnall Carton Company, Inc., has been organized under state laws with capital of $10,000, to manufactured paper boxes and containers, and will operate a local plant. It is understood that the company will succeed to the Schnall Sons Carton Company, 101 Wyckoff avenue, city. Incorporators of new company include Gustave and Isidor Schnall, 980 Hart street, Brooklyn.

New York, N. Y.—Brickman & Ballerstein, recently organized to manufacture and deal in paper boxes and containers, has leased a floor in building at 153-61 East Twenty-fourth street, extending through to 150-58 East Twenty-fifth street, and will occupy for local plant and headquarters.

Burnside, Conn.—The Taylor-Atkins Paper Company has been organized with capital of $150,000, by officials of company of the same name, to take over and operate the plant and business. Company specializes in the manufacture of writing papers and other coated paper stocks, with mill at Burnside, near East Hartford. Robert Witbeck, president, treasurer and general manager of former company, is principal incorporator of the new organization.

Tampa, Fla.—Bowman-Jenssen, Inc., manufacturer of paper boxes and containers, cardboard cut-outs, etc., is arranging for early operation of new local plant at 3007 Granada street, recently referred to in these columns. Equipment installation is under way for sizeable capacity. Plant is reported to cost close to $25,000, with machinery. A. J. Bowman is secretary.

Newark, N. J.—The Vogeltype Aligning Paper Corporation, recently organized with capital of 200 shares of stock, no par value, is said to be planning early operation of local paper converting plant for production of special paper stocks. New company is represented by Henry Spielvogel, 24 Commerce street, Newark.

Fernandina, Fla.—City Council has received official notification that application to Public Works Administration, Washington, D. C., for loan of $4,500,000, for construction of new local paper mill, has been refused. It is understood that no further action will be taken at this time. The proposed mill would have been owned by the municipality and operated by the Union Bag and Paper Corporation, New York, N. Y.

Chicago, Ill.—The Stein Brothers Paper Box Company, 2415 West 19th street, has been organized by Barney and Louis Stein, and plans early operation of local factory for the manufacture of a line of paper boxes and containers. The new company is capitalized at 150 shares of stock, no par value.

New Companies, Etc.

East St. Louis, Ill.—The Illinois Paper Stock Company, 109 South 15th street, has been organized with capital of 20 shares of stock, no par value, to deal in paper products of various kinds. Incorporators are Maurice B. Malin, H. Lawrence Miller and LeRoy Thompson, all of East St. Louis.

New York, N. Y.—New Products Research, Inc., has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in paper products of various kinds. John R. Davies, 36 West Forty-fourth street, is company representative.

New York, N. Y.—The Kourded Pulp Corporation, a Delaware organization, care of United States Corporation, Company, 150 Broadway, New York, has filed notice of increase in capital from $400,000 to $625,000 for general expansion.

New York, N. Y.—The Pulp Liquor Recoveries Company has been chartered under direction of the Corporation Trust Company, 120 Broadway, with capital of 300 shares of stock, no par value, to manufacture and deal in pulp products, pulp byproducts, etc. Incorporators include T. R. Cissel, Jr., and Robert E. Houston.

WINDERS

CLEAN

CUT

REWINDERS

SAMUEL M. LANGSTON COMPANY

CAMDEN, N. J.

PAPER TRADE JOURNAL
ESTABLISHED 1872

15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm
Washington Correspondent

Price, Per Copy, 10 Cents

United States, Per Annum, $4.00

Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCIX New York, October 25, 1934 No. 17

This publication is now and always has been printed on paper made in the U. S. A.

FUTURE OF NRA

Considerable concern has been expressed in the paper industry about the future policy of the NRA, especially as regards minimum prices and production control. Definite information regarding these matters have been difficult to obtain from the administration at Washington. Well versed authorities, however, who have been following the situation carefully profess to see some assurance that there is no threat of sudden action on the government's part to remove existing production contracts or to abolish suddenly all attempts to fix price, from an opinion which appeared in the *United States Law Week* and which, in part, said:—

"It is not likely that two of the primary provisions of codes of fair competition will be struck out by any broad administrative order. Rather, it is anticipated that the problems will be considered in their relation to each separate industry. It may reasonably be expected that production control will eventually be dropped except as to natural resources and quasi-public industries, and that the policy as to price control announced some time ago, that of price fixing only on an adequate showing of emergency and for a temporary period, will be continued."

If this opinion is trustworthy, as it appears to be, it offers at least some assurance that this policy of the NRA, which has been so helpful to the pulp and paper industry, will not be immediately discontinued. Assurance against any sudden changes also were given in his address at Indianapolis last week by Donald R. Richberg, one of President Roosevelt's chief spokesmen, who outlined some future policies of the NRA. He advocated a path not "the extreme right or extreme left," but more a middle road. He gave strong indication that the administration's price raising efforts will proceed with caution. His statement relative to price fixing was considered of particular significance as coming shortly after a recent indication by the President that some prices had not been increased sufficiently.

"It is undoubtedly true that this process of increasing wages and prices may be accelerated too rapidly," he said. "Unless there is a careful restraining upon both increasing labor cost and increasing prices, a delicate balance will be upset. Too high prices will stifle purchasing power; too high wages will either stifle production or so hasten the substitution of machine power for man power that new eras of unemployment will be created."

The recovery coordinator told his audience that in whatever he said there was "no threat of sweeping changes or the application of any novel theories." As for the administration's course, he said, "we are not going back to 1926 to rehearse again for the follies of 1929. We will not follow other nations into state control of industry and accept the loss of self government and the death of individual freedom. Nor will the American people tolerate a private monopolistic control of trade and industry under any name or in any form."

He said the best features of NRA would be continued and expanded. His remarks showed that the administration is fully cognizant both of expressed fears by business and of consumers' complaints about a rising cost of living.

SHARP GAIN SHOWN IN BUSINESS TREND

The most vigorous forward step of the Fall season was recorded this week in general trade movements, according to the weekly survey of Dun & Bradstreet, Inc. The first full week of seasonable weather brought reports from all parts of the country calling attention to the sharp increases in retail distribution, particularly in the farm areas, where government funds are being distributed at a constantly enlarging rate, the review states.

"These reports were accompanied by advices of the termination, at least temporarily, of labor difficulties, a quickening of industrial operations in some divisions, the maintenance of former employment totals, and noticeably easier financial conditions," the report says. "While some of the fundamental uncertainties are yet to be removed, confidence is more definitely in evidence, and there is more reassurance that policies adopted for future action will be constructive."

Retail sales for the country, as a whole, ranged from 8 to 12 per cent larger than for the corresponding week of 1933. As price increases do not form the heavy percentage in the dollar totals that was present during the Spring season, the figures reveal that unit purchases are more numerous, it is pointed out.

"The cooler weather provided the wholesale markets with the stimulation for which most lines had been waiting since the first of the month, and as a result mail orders were nearly double those of the previous week at some centres, and the requests for hurried shipments were not confined to wearing apparel," the report states. "The impetus necessary to start another wave of buying also

has been given by the official announcement that higher price levels are in prospect and retailers now are showing an inclination to cover future needs more generously."

With the exception of a few districts where warm weather has retarded the movement of heavy clothing, the cities which did not experience a gain in retail volume during the week were the exception, it is said. Sales in the Middle West ranged from 20 to 30 per cent larger than for the week preceding and 12 to 18 per cent above the 1933 period, with unit turnover sharply higher. In the South and Southwest sales were from 20 to 25 per cent in excess of last year's record, and on the Pacific Coast volume was 10 to 15 per cent larger than comparative totals of 1933, with gains in some divisions of the wholesale trade amounting to as much as 30 to 50 per cent.

Manufacturers of plumbing, heating, steam-fitting, and roofing materials, and water supply systems have had the best Fall business in three years, despite the lack of a general increase in new building work. Profits in these trades also are becoming wider, as stabilization has resulted from the adoption of the various codes, and collections have been good during most of the year, because of the care exercised in granting credit. Furniture factories in some centers have increased schedules from two days to five days a week, as a result of the unexpected flow of orders at this time of the year. Paint output continues to exceed last year's, and most of the manufacturers of rubber sundries and specialties are operating at capacity. Brick and tile makers, who thus far have received little benefit from the upturn in general trade, see some hope ahead in the wider activity in building and the greater ease with which builders are obtaining funds for moderate-sized ventures. Labor conditions are going along smoothly once again, with no fresh disturbances in evidence, and most of the old disputes in the process of settlement.

"The building trades finally have taken a turn for the better, and manufacturers of builders' supplies report the largest orders in more than two years. Gains of 50 per cent and more over last year's bills for repairs are reported in many districts, even though the loans under the provisions of the National Housing Act are being issued at a slow rate, as yet, in some parts of the country. Residential building is gaining, and the promotion of the home modernization and repair program is being launched strongly in some districts, with the response showing that the field is ripe for concerted action in this division.

"Operations in foundry and machine shops are increasing, with wider schedules being adopted in the tool and die divisions, where preparations are being made for the new automobile models.

"Many of the paper mills continue to operate at approximately five days a week, but paper board plants generally are running on reduced schedules. In the pulp and newsprint division the third quarter closed with a fairly good record in both mill and wholesale departments of the industry. Operations thus far in October are decidedly higher than a year ago, and it generally is expected that the fourth quarter will exceed the showing of the third one. In the fine paper field, demand is holding up well, and most mills are operating closer to capacity than for many months. The stronger demand from the converting trade is evident by the more numerous calls for envelope papers and the general stationery lines of paper. Consumers of coarse paper are enlarging their commitments slightly. There is quite a good call for litho, book, and the various grades of bonds and writing, and it looks as if the mills would be able to continue their present rate of operations during the balance of the year."

A. P. W. To Build $400,000 Plant

ALBANY, N. Y., October 22, 1934—Abandonment and sale of the present big converting plant and offices in North Albany, with plans to erect a new $400,000 structure near the Hudson River, off Bridge Street, were announced last week by the APW Paper Company.

Initial revelation of the plan came from Ledyard Cogswell, Jr., president and chairman of the board of directors in annual session.

After discussing the company's expensive power difficulties in Nova Scotia and hoped-for developments to relieve the concern of financially burdensome aspects of that situation, Mr. Cogswell said:

"Another development which should especially interest our stockholders and the people of Albany is our plans for building a new, modern converting plant adjoining the Liberty Mill, thus hoping to make under one roof the most efficient paper plant in the United States.

"It is in view of these plans that the present 'For Sale' sign is in front of our Broadway converting plant.

"These plans call for the expenditure of about $400,000, most of which will be spent in Albany. We therefore, hope that the city officials and the people of Albany will give us their greatest co-operation in our new building program.

"Our plans are substantially complete and we are waiting for financial arrangements to provide the funds."

The statement of the president followed the election of officers, which renamed him to that office and as chairman of the board. Dwight G. W. Hollister was reelected executive vice-president, F. Gardiner Perry, treasurer; George C. Bishop, assistant treasurer; Spencer C. Gunn, secretary; George W. Browne, assistant secretary, and Roger W. Bell, general manager.

Warns Regarding Imports of Canary

Importers "entering" canary and poster papers as standard newsprint may find a day of reckoning upon which they had not counted when selling these papers in the belief that their paper had been admitted as duty free paper, according to the Import Committee of the American Paper Industry. Shipments of such papers, entered as standard newsprint, are being admitted subject to a bond to guarantee payment of a dumping duty if such a duty is levied upon standard newsprint. Pending action on the newsprint dumping case the importers are not notified that their paper may eventually be classified as dutiable paper. When dutiable paper is entered as standard newsprint no action may be taken immediately, but eventually duty will be collected. What the importers now think are profitable transactions may therefore eventually prove to be subject to heavy losses when duties are paid.

A drawing made at one of our plants by D. Douglass

these six plants are located to give you quicker service on *Rosin Size*

American Cyanamid is developing a better and more complete service for the paper industry. We are keeping in step with the increasing demand for closer cooperation . . . quicker delivery of all orders.

That is why our rosin size plants are located where they will be most convenient to the companies they serve—why, in every center of the paper making industry you will find an American Cyanamid Rosin Size plant or warehouse.

Below is a list of our up-to-date, fully stocked Rosin Size plants. Note the location of the one nearest to *you*. And when you need rosin size, remember—our service includes not only prompt attention to every order but full cooperation on special problems of production. These plants, serviced by our own tank lines, are located at:

Waterbury, Connecticut; Erie, Pennsylvania; Kalamazoo, Michigan; Valdosta, Georgia; Pensacola, Florida; De Quincy, Louisiana.

AMERICAN CYANAMID & CHEMICAL CORPORATION

30 ROCKEFELLER PLAZA NEW YORK, N. Y.

DISTRICT OFFICES: CLEVELAND, CHARLOTTE, CHICAGO, PHILADELPHIA, BOSTON, KALAMAZOO

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Drainage of Paper Driers*

By H. R. Masters[1]

It is the purpose of this paper to discuss briefly the drainage of paper driers in general as affecting the performance of these machines, and to bring out the direct and indirect benefits resulting from the use of the extremely simple Coe drainator system as compared with methods now in general use.

In perhaps the majority of our paper mills, the driers are the limiting factor in production. Not only do they govern the production, but they contribute their share of the multitude of problems that constantly confront every paper manufacturer.

Drying Factors

There are a number of variable factors governing the drying of paper which may be roughly subdivided into two groups. First: those having to do with the paper itself, such as the hydration of the stock, the make-up of the furnish, the formation of the sheet, the moisture content of the paper as it passes on to the first drier, the thickness of the sheet, and the width of the sheet. The second group of factors has to do with the drier itself which may be enumerated as the tension of the sheet against the drier face, the humidity of the air immediately surrounding the driers, the steam pressure in the drier, and lastly the rate of heat transfer through the drier shell.

The drainage system on the driers is the most important of the various factors controlling the rate of heat transfer, although others may be mentioned, such as for example, the accumulation of coatings of various kinds on the outside of the drier shell, the collection of scale and oil on the inside, and the presence of a water film on the inside. These factors obviously are beyond the control of any type of drainage system, leaving the following factors which are directly controlled by the functioning of the drainage system. These may be listed as first, the circulation of steam within the drier; second, the accumulation of condensate within the drier; and third, the accumulation of air within the drier.

In early days of paper making when steam heated drier shells first came into use, the common practice was to supply each of the drying cylinders with steam and permit it to blow out to atmosphere through the syphon pipe. As competition in the making of paper grew, it became necessary to reduce the costs of paper manufacture in every way possible, and among the first economies effected was the application of steam traps to the paper drier. As far as can be learned today, very little was understood about the action of the steam trap as applied to the paper drier, and all the operators knew was that the word "trap" was synonymous with "trouble" and generally interfered with the drying process. These little understood difficulties gave rise in later years to the development of a number of so called staged or circulating drainage systems particularly designed for use on the paper drier. With the advent of each new system came a new conception on the part of the inventor for demonstrating that his particular system would produce the very best possible results on the driers.

Work of F. C. Stamm

F. C. Stamm, in his paper entitled "Heat Transfer Through Cast Iron Drier Shells," has analyzed in a thorough manner the basic conditions governing the transfer of heat from steam to paper in the drying process, and his tests in support of his conclusions regarding the circulation of steam within the drier, the accumulation of condensate within the drier, and the accumulation of air within the drier, will be cited in this discussion of these subjects. Mr. Stamm's conclusions have been substantiated by experiences in other processes using steam for heating.

In discussing the effect of circulation within the drier, a point which has been emphasized many times in the literature on the subject of paper drier drainage, has been that by blowing steam in series through two or more groups of driers, the velocity of the steam has been doubled or tripled which in itself increases the rate of heat transfer. Upon careful consideration, it is rather absurd to subscribe to the belief that any benefit is so obtained. For example, on an average 48 inch drier condensing at the rate of 300 pounds per hour, or 5 pound per minute, at a pressure of 10 pounds, the volume of steam passing into the dryer is 82½ cubic feet per minute, and assuming a uniform velocity over the cross section of the drier shell (a condition which is not reached in practice), the steam velocity on the inside surface of the shell is only 6.6 feet per minute. If this figure is doubled or tripled or even quadrupled, the highest velocity reached by the steam would be only slightly more than 25 feet per minute, which is a movement so slight that the difference in the film coefficient between this state and that of rest is practically nil.

* Presented at the meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry, Appleton, Wis., Oct. 9, 1934.
[1] Coe Manufacturing Company, Painesville, Ohio.

Mr. Stamm in his investigation of this particular subject disconnected a drier near the wet end of an operating paper machine from the return line and piped it up so that it could be blown straight through to atmosphere. With 25 pounds steam pressure in the drier and no circulation, the surface temperature was 264 degrees. He gradually opened a valve on the return line a turn at a time at ten minute intervals until at the end of an hour and a half, the return line was wide open and blowing straight to atmosphere. This condition was allowed to continue for a period of two hours, at the end of which the valve was closed and a trap cut into the return. The trap operated efficiently and allowed the passage of all the water condensed in the drier but stopped the circulation entirely. After conditions were left like this for a period of four hours, during which no condensate collected in the drier and there was no circulation of steam, the surface temperature of the drier remained constant at 264 degrees. In fact at no time during the entire test just described did the temperature vary at all from 264 degrees. The conclusion, therefore, both from a theoretical and practical standpoint is that the effect of such circulation as can be obtained in a drier shell has no effect whatever on the rate of heat transfer from the steam to the drier shell and thence to the paper.

Water in the Drier Shell

The second of the factors directly effected by the drainage system is the accumulation of water within the drier shell. Much emphasis has been placed on the level of the water as maintained in each drier shell as having a distinct effect on the rate of drying of the paper. In discussing this point it should be borne in mind that the type of drier under consideration is one which is operating below the critical speed at which water will be thrown or carried over on the inside of the shell and maintained as a ring by centrifugal force. Mr. Stamm in his investigation of the effect of water accumulation, selected a drier well toward the wet end of the paper machine which was first carefully checked for the adjustment of the syphon pipe. This drier was disconnected from the return header and allowed to blow free to atmosphere for about fifteen minutes to be sure no accumulation of water or air was present. Upon closing the return line, the surface temperature of the drier was 262 degrees F. This return line was kept closed for a period of eight hours, at the end of which time there was about 14 inches of water in the drier as determined from a pet-cock placed in the head. During this eight hour period, readings taken every half hour showed a constant temperature of 262 degrees. Several repetitions of the test showed the same results. Tests were made both with top and bottom driers. In the bottom drier, the water was at the bottom next to the paper and the temperature readings taken on the top. In the top driers, the temperature readings were taken on the bottom. Since no measurable difference showed up in these results, it was concluded that water in the drier does not materially effect the rate of heat transfer.

In discussing this subject of water accumulation, the purpose is not to advocate that water be allowed to accumulate, but rather is it to bring out the point that the surface resistance to the passage of heat from steam to the cast iron shell is negligible as compared to the next effect that will be discussed.

Air Removal from Driers

The principal factor governing the rate of heat transfer from steam to the drier shell and thence to the paper, is the accumulation of air inside the drier shells. The total pressure indicated at any time on a drier cylinder is made up of the sum of two partial pressures, namely, that of steam and that of the air or other non-condensable gases. The partial pressure exerted by either the steam or air is in the same proportion as the volumes of these two gases within the cylinder. For example, on a drier operating at 25 pounds absolute pressure, if 20 per cent of the volume of the drier is occupied by air and 80 per cent by steam, the pressure due to the air is 5 pounds and that due to the steam is 20 pounds. The temperature of the steam will then correspond to the steam table temperature given against 20 pounds absolute pressure, which is approximately 6 degrees F. lower than the steam temperature at 25 pounds absolute pressure which would exist if no air were present.

Paper when drying will assume a temperature of about 180 degrees, and the flow of heat takes place at a rate corresponding to the difference between the steam temperature and that of the paper, which in the above case when no air was present would correspond to a thermal head of about 60 degrees. The presence of 10 per cent of air which reduces the steam temperature by 6 degrees would, therefore, reduce the rate of heat transfer by 10 per cent and the rate of drying would be reduced in the same amount. The presence of air within the drier often runs as high as 20 or 30 per cent, and the corresponding reduction in drying speed becomes relatively very high, reaching in some cases as much as 40 per cent. Mr. Stamm, for example, found that by varying the amounts of air allowed to enter a drier, he could change the surface temperature to any value between 215 to 262 degrees. Furthermore, unless some means is provided for removal of air within the drier shells, that the air would remain there indefinitely.

It follows from the above, that in addition to its normal function of removing the water from the driers, a good drainage system must remove also all the air and non-condensable gases that accumulate within the driers. In fact it truly might be said that the principal function of the good system is the removal of air and that its secondary funcion is the removal of the water.

In addition to these two prime requirements, the characteristics of the ideal drainage system might be listed as follows: First, the system should give maximum production at a given steam pressure; second, the system should operate at a maximum of efficiency, that is, at the lowest amount of steam per pound of paper produced; third, it should involve a minimum of maintenance and attention; fourth, it should provide some means of indicating the correct operation of each individual drier; fifth, it should provide a means for adjusting drainage conditions on each individual drier without affecting the proper drainage of other driers on the same machine.

The Coe Drainator System

The Coe drainator system, as applied to a paper drier, consists of a main steam header for supplying steam to each drier which may or may not be divided into zones of different pressures. Each of the drier syphons is provided with a drainator discharging into a common return header. The discharge from the return header is in the case of low pressure driers, connected into a standard vacuum pump. On high pressure driers the returns may be disposed of in a number of ways, among which might be included a standard centrifugal pump for returning the water directly to the boiler or a flash tank which would supply flash steam to the first one or two driers on the machine, the condensate being returned with a regular centrifugal pump to the boiler and hot well, etc.

The heart of the system is the Coe drainator, which essentially is a steam trap which allows the free passage of water and air but which does not allow the escape of steam. The operation of this device involves the use of no moving parts whatever, and relies entirely upon the inherent qualities of hot water, steam, and air.

A cross section of the device is shown in Fig. 1. It consists of a receiving chamber "R," and a discharge chamber "D," in the form of a single casting provided with an adjustable orifice "O" connecting the two chambers. To understand the functioning of the drainator it is first necessary to consider that the temperature of condensate when produced from steam is, by the time it is collected and discharged from the vessel in which it was condensed, at a slightly lower temperature than that of the steam which produced it. This is almost self-evident, but can be explained as follows: The wall of the condensing vessel must be cooler than the steam in order to cause condensation. After the condensation has occurred, the water so produced is in contact on one side with the relatively cool wall of the vessel and on the other side with the steam. Since the rate of heat transfer from steam to water is less than that from water to metal, the temperature assumed by the condensate must be higher than the metal and lower than the steam. These few degrees by which the water is cooler than the steam will be referred to later as temperature decrements.

The second conception necessary for understanding the drainator operation is the rate at which the discharge of hot water through an orifice of fixed size at constant pressure will vary with the temperature of the water. In Fig. 2 is shown a typical curve showing this variation based on water at 85 pounds per square inch absolute varying in temperature between 316.3 deg. F. (the boiling point) and 206.3 degrees. It will be noted that the weight of water discharged through an orifice one square inch in area varies from 5 pounds per second at the boiling point to nearly 45 pounds per second when the water is at a temperature of 206 degrees. It will be noted further that the rate of change of discharge is very rapid near the boiling point. For example, if the temperature decrement is 2 degrees, that is, if the water is 314.3 degrees, or two degrees below the boiling point, the rate of flow is 10 pounds per second, or exactly twice as much as at the boiling point. Decreasing the temperature to ten degrees below the boiling point, increases the rate of flow to 17½ pounds per second.

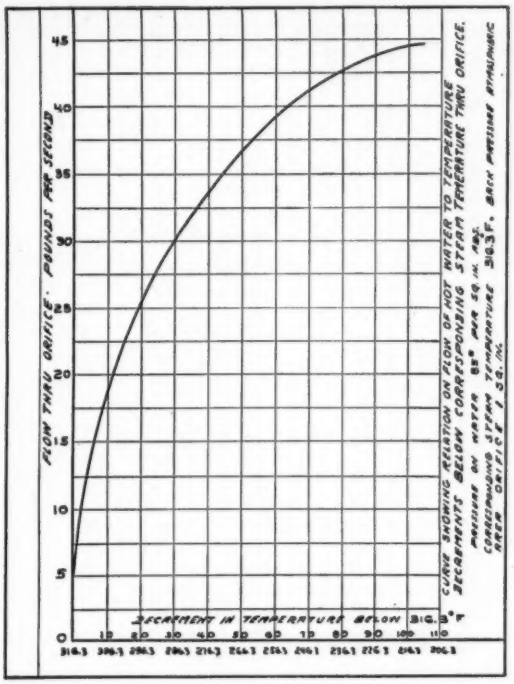

FLOW THRU ORIFICE - POUNDS PER SECOND
0
5
10
15
20
25
30
35
40
45
DECREMENT IN TEMPERATURE BELOW BIG. 316.3° F.
0 10 20 30 40 50 60 70 80 90 100 110
316.3 306.3 296.3 286.3 276.3 266.3 256.3 246.3 236.3 226.3 216.3 206.3
CURVE SHOWING RELATION ON FLOW OF HOT WATER TO TEMPERATURE DECREMENTS BELOW CORRESPONDING STEAM TEMPERATURE THRU ORIFICE.
PRESSURE ON WATER 85 LBS. PER SQ. IN. ABS.
CORRESPONDING STEAM TEMPERATURE 316.3°F. BOIL PRESSURE BYNAMETRIC
AREA ORIFICE 1 SQ. IN.

FIG. 2

The mathematical demonstration of this phenomenon is quite involved but an adequate understanding can be had by considering that with water at the boiling point the very instant the pressure is relieved to the slightest extent the formation of flash steam results. A reduction in pressure must occur in the orifice to allow the flow to take place and there is, therefore, a condition in the throat of the orifice of a mixture of water with flash steam bubbles. If it were possible to examine a cross section of the stream, the volume occupied by the stream would be found to consist of 1/9 water and 8/9 steam. A reduction in temperature of 2 degrees will reduce the amount of flash and change the character of the flow from that just described to a condition where 2/9 of the stream is water and 7/9 of the volume is steam bubbles.

Assuming that the orifice adjustment on the drainator has been properly made, the action of the device is as follows: Water flows into the receiving chamber "R," up through the baffle chamber "B," and through the orifice to the discharge chamber at a certain rate depending upon the temperature of the condensate as it comes from the drier syphon. This instantaneous rate of flow through the orifice is higher than the rate of flow through the syphon pipe. Very quickly the level of water in the receiving chamber will descend below the lowest baffle. This will break the water seal ahead of the baffle and allow a bubble or two of steam to pass up through the baffle chamber in an attempt to escape. This steam, however, condenses in the water in the baffle chamber and results in heating the water then contained in the baffle chamber. As has already been shown, the effect of this slight heating is to reduce materially the rate of discharge of the orifice. Actually what happens is that the instantaneous rate of flow through the orifice is then reduced to a point where it is less than

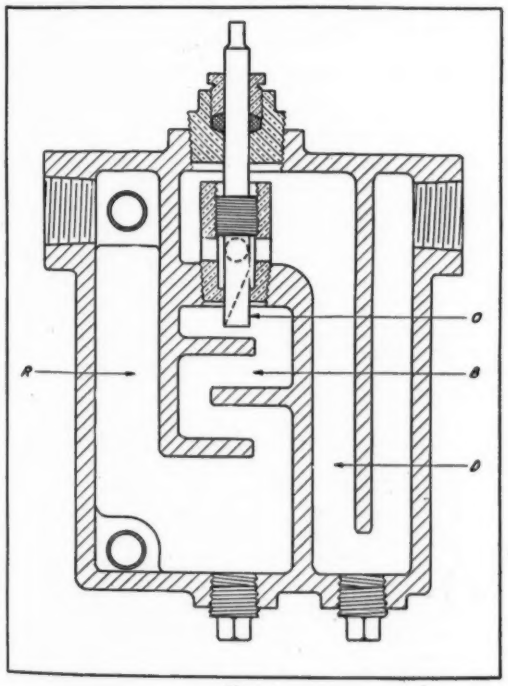


FIG. 1

the rate at which the condensate is entering the receiving chamber. This results in the raising of the water level in the receiving chamber above the lowest point on the baffle. This higher level will be maintained until the heated water has passed out of the baffle chamber when the cycle is repeated. This normal fluctuation of the water level in the receiving chamber indicates in the water glass attached to the chamber that the Drainator is functioning properly.

Process of Air Elimination

The most interesting feature of the drainator as applied to paper machines is its air eliminating capacity. Contrary to the belief of some engineers, in order to eliminate air from the large chamber such as a drier shell, it is usually necessary to remove some steam with it also, since the air and the steam mix together. Assuming for a moment that the drainator is attached to a dryer containing air, the process of air elimination through the drainator is accomplished as follows: As has just been described, the control of flow of condensate through the orifice is accomplished by the heating effect of the steam bubbles attempting to escape through the baffle chamber. If these bubbles should contain air, the effect of the presence of air in the steam is to lower its temperature, which makes it impossible for these bubbles containing air to heat the water to a point where any restriction in flow will occur. This means only one thing, namely, that the water seal will remain broken allowing the free passage of the steam and air mixture until such time as the air has been eliminated when normal operation of the device is automatically resumed.

The drainator can therefore be seen to be a device which, without the use of any moving valves or thermostatic elements, permits passage of condensate without the loss of steam and which also has an air eliminating capacity which varies almost directly with the amount of air to be eliminated.

Advantages of Coe Drainator System

The steam and return piping is reduced to a minimum since it consists of the main supply header, which may be divided into two or more stages each under the control of a pressure regulating valve, and one common return header serving all of the dryer. There are no differential valves or complicated arrangements of piping the function of which more often than not is only dimly understood by the operating force.

The drainage of each drier is handled as an individual problem and should an adjustment be necessary on any one drier, such adjustment will not have any effect on the other driers.

The normal operation of the drainator is indicated by the "bobbing" of the water in the gauge glass which makes it very easy for the operator to keep a continual check on the satisfactory operation of each drier since this action indicates thorough drainage and thorough air removal. If the syphon pipe should break near the journal, the water will descend in the drainator gauge glass to a very low steady level, thus indicating the breakage of the syphon pipe. Should the syphon pipe become clogged, the gauge glass will fill to the top indicating this condition. From actual tests made in the field it has been found that with the proper bobbing action of the water in the gauge glass and with a given steam pressure on the steam inlet it is almost superfluous to take surface pyrometer readings of the driers; in other words, if the drainator indicates that it is operating properly, it automatically indicates that the very highest possible surface temperature with that steam pressure exists on that particular drier.

It has also been found from practice that when the driers are operating on a vacuum, the drainator serves as a very simple check for determining the tightness of the journal packings on the drier. This is done by reducing the size of the orifice opening by turning the adjusting stem and observing the action of the water in the glass. If by so doing it is impossible to make the water level raise to the top, a condition of excessive leakage exists in the packing glands which should have attention.

The drainator with a given setting of orifice operates successfully through a wide range of pressures without any adjustment whatever and about the only thing that can happen to it which might cause improper operation is that a piece of scale or other foreign matter might become lodged in the orifice opening, thus restricting the flow of condensate. This condition will be instantly reflected by the level of the water in the gauge glass rising to the top. Normal operation of the drainator can be restored in a few seconds by revolving the orifice adjusting stem one or two revolutions which allows the sharp reamer-like edges of the tapered V-slot in the orifice stem to cut out and clear any obstruction that might exist in the orifice.

The first drainator installation was made a little over two years ago on a 66-drier board machine which has been in successful operation ever since. This machine is arranged to use both live and exhaust steam at 3 to 20 pounds pressure. The heating up time with a cold drier has been materially reduced as has also the amount of waste obtained in the starting up period. Drier temperatures are more even and consistently higher than those obtained on a stage type of system previously in use. Due to the efficient operation of the drainator, the quality of the board and paper has been improved with a very decided less tendency to cockle on light weight papers. The production on the machine has been increased on the average a little more than ten per cent. That this installation has proved satisfactory is demonstrated by this company's purchase recently of a second complete drainator system for use on their No. 2 machine.

The Coe drainator system for simplicity; efficiency of operation; freedom from maintenance, first cost and operating cost and from any other standpoint on which a system might be judged marks a distinct mile-post in the progress of engineering as applied to the important problem of draining the paper machine.

Commercial Standards for Chip Board

Under date of May 23, 1934, a recommended commercial standard for chip board, laminated chip board and miscellaneous boards for bookbinding purposes was circulated for written acceptance. Since that time the Bureau of Standards, Department of Commerce, has received signed acceptances from a number of distributors and producers of the commodity and from a particularly satisfactory majority of users of these boards.

The Division of Trade Standards is pleased, therefore, in the absence of any active opposition, to announce that the Commercial Standard, which will be identified as CS49-34, may be considered effective for new production beginning December 15, 1934.

C. C. Heritage Made Technical Director

The Oxford Paper Company has announced the appointment of Clark C. Heritage as technical director of the Company, including the Maine Coated Division and the Oxford-Miami Paper Company.

T. F. Spear, who has been manager of the Oxford Blain Paper Division has had his duties extended to include management of the Maine Coated Division.

L. W. McFail has been appointed assistant to the manager of the Maine Coated Division at Rumford, Maine.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Machinery

Arrangement for the Bearings of a Barking Drum Which is Partially Submerged in Water. R. Wilen, Helsingfors. Finn. pat. 15,605 (Aug. 1, 1932).—J. F. O.

Slab Barker. Albert H. Onstad assignor to Weyerhauser Timber Co. U. S. pat. 1,956,653 (May 1, 1934).—The patent provides for the barking of slabs by means of a cutter head that is mounted on a disk that can be rotatably adjusted, and the disk itself is mounted on a vertically adjustable carriage to vary the position of the cutter above the feed table on which the slab is carried past the cutter.—A. P.-C.

Pulpwood Rosser. Robert J. MacDonald assignor of one-third to Edward J. Corrigan. U. S. pat. 1,952,931 (March 27, 1934).—The invention relates more particularly to a special cutter head, designed and mounted so as to automatically follow the irregularities of the log surface and remove only the bark.—A. P.-C.

Device for Removing Bark from Logs. John M. Council. U. S. pat. 1,951,084 (March 13, 1934).—The bark is removed by means of series of pivotally mounted revolving hammers which act on the rotating log to give progressive blows substantially in a spiral manner. The log is supported on a series of small endless chains each trained around a pair of sprocket wheels journalled in brackets on the end of an arm adjustable towards or away from the barking disc to accommodate logs of different diameters. The log is rotated by contact with endless chains located between the sets of hammers.—A.P.-C.

Method of and Means for Barking Long Logs in Barking Drums. Frans E. Berggren. U. S. pat. 1,950,078 (March 6, 1934).—Means are provided for raising and lowering the water level in a barking drum which is located in such a manner that, when the level is raised, the logs can be floated directly into the drum; the level is then lowered for the barking operation proper, and is raised again to float out the barked logs and float in a fresh batch of unbarked logs.—A. P.-C.

Winder for Flimsy Papers Such as Crepe. Charles A. Fourness assignor to Paper Patents Co. U. S. pat. 1,949,997 (March 6, 1934).—The invention provides mechanism for automatically placing a new core in position as a filled core is removed. The new core is supported in bearings in slots at the end of pivoted arms. As the roll builds up the trunnions of the core gradually move up out of the slots and into slots in the ends of a second pair of pivoted arms. The first pair of arms is then moved back to position to receive a fresh core. On swinging the second pair of arms to remove the finished roll, the first pair are automatically swung back to bring the empty core into contact with the winding drum.—A. P.-C.

Paper Winder. Earl E. Berry assignor to Beloit Iron Works. U. S. pat. 1,950,159 (March 6, 1934).—The invention provides a rewinder having sectional winding drums and winding shafts and a variable speed drive for each section, whereby it is possible to secure a different tension in each of the webs slit from the unwinding roll. In order to regulate the hardness of the paper roll during the progressive winding thereof, the winding shaft is supported on arms pivoted concentrically with the winding drum, and the arms are progressively rotated as the paper roll builds up, so as to diminish the proportional radial component of weight to the total weight of the paper roll acting on the winding roll.—A. P.-C.

Four-Drum Winder. William A. Bessmer and Amos J. Aubin assignors to Hammermill Paper Co. U. S. pat. 1,951,182 (March 13, 1934).—The patent covers various features in the design and operation of such winders with a view to improving the guiding and feeding of the slit strips to the winding drums without danger of wrinkling and to effect reversal of the direction of winding if desired.—A. P.-C.

Weight Regulating Apparatus for Paper Stock. Ernest Poirier U. S. pat. 1,939,411 (Dec. 12, 1933).—The headbox of the paper machine is divided into three compartments, a central inlet compartment, a back overflow compartment which takes the overflow from the inlet compartment, and a front discharge compartment from which the stock is fed to the paper machine. The stock passes from the first to the third through one or more upwardly curved pipes placed near the bottom of the partition dividing off the two compartments. A decrease or increase in the consistency of the stock results in an increase or decrease in the rate of flow into the discharge compartment, and thence to the paper machine, thereby compensating to some extent for variations in the amount of fiber delivered to the machine due to minor variations in consistency.—A. P.-C.

Method of Making a Seam in Fourdrinier Wires. Karl U. Schuster assignor to F. Oberdorfer G.m.b.H. U. S. pat. 1,955,517 (April 17, 1934).—The ends of the wire are joined by welding together the two extremities of each warp wire out of contact with any weft wire, or by placing the two ends of the fabric with the warp wires staggered and overlapping and welding each of the overlapping warp wires to the two adjacent ones of the other end of the fabric, in such a way that the line of welds takes the place of and simulates a weft wire.—A. P.-C.

Fourdrinier Paper Machine. Milton T. Weston. U. S. pat. 1,955,399 (April 17, 1934).—The present-day type of suction boxes is eliminated entirely, and a much larger area of the wire is subjected to vacuum by means of a new arrangement of specially constructed co-acting table rolls in conjunction with means for closing, lubricating and sealing the ends of the chambers thus formed. The chambers are connected to a suitable source of vacuum.—A. P.-C.

Method of and Apparatus for Making Paper. John D. Tompkins. U. S. pat. 1,951,714 (March 20, 1934.)—Electrical heating elements are provided above the wire so as to heat the paper and the overlaying air before and while suction is being applied, and also between the suction boxes and couch roll. Additional heating elements are provided at the press section to heat the paper as it is carried between top and bottom felts.—A. P.-C.

The Texas Gulf Sulphur Company Spray Type Sulphur Burner*

By O. Kress,[1] W. H. Swanson,[2] D. C. Porter,[3] and B. F. Smith[4]

Abstract

A description of the construction and operation of the Texas Gulf spray type sulphur burner in the mill of the Kimberly-Clark Corporation. Data on the waste heat boiler installation is given.

The Research Department of the Texas Gulf Sulphur Company, after several years of investigative work, has developed a sulphur burner of the spray type, a description of which appeared in the PAPER TRADE JOURNAL *(1)*. The inventor of the burner, Isaac Bencowitz of the Research Department of the Texas Gulf Sulphur Company, installed the first commercial unit at their plant at Gulf, Texas, to study the spray burning of sulphur. With no possible commercial outlet for the gas produced, it was impractical to operate the burner continuously, and as a result no real scientific information was available covering continuous operating conditions such as would be experienced in the sulphite pulp industry. However, valuable data were secured covering the ease of operation, starting up and shutting down of the burner, gas concentration, and sulphur trioxide formation, and to Dr. Bencowitz is accorded full credit for the invention of this very interesting and valuable sulphur burner. The spray burner is, of course, a patented piece of equipment and additional patents are pending based upon the work with the commercial installation at the Kimberly mill.

The Kimberly-Clark Corporation was agreeable to the proposal that the Institute of Paper Chemistry install and operate under Institute direction a complete Texas Gulf Sulphur spray burner to secure essential data on its commercial operation and life under continuous operating conditions. All material purchases, direction, and operation of the equipment have been handled and supervised by the Institute of Paper Chemistry. The Kimberly-Clark Corporation has further agreed to permit any one interested in the spray burner to see it in operation; application for such visits, however, are to be arranged through the Institute of Paper Chemistry. The spray burner is in continuous operation as the conventional type of burner has been scrapped, and the spray burner may therefore be seen at any time when the sulphite pulp mill is in operation.

The Texas Gulf Sulphur Spray Burner Equipment

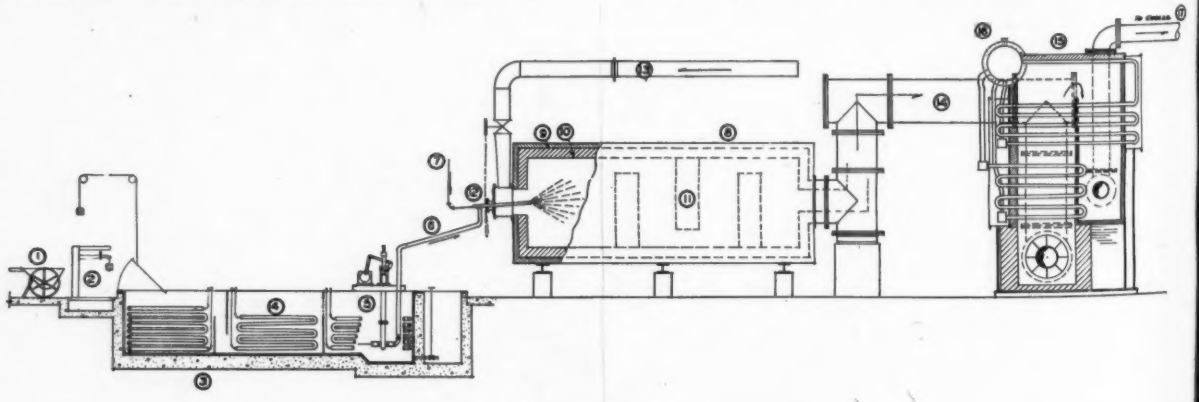
Construction of the spray burner was started early in May, 1933, and the burner was placed in operation on June 12, 1933. Except for minor shut-downs for changes which appeared advisable, the burner has been in continuous operation since that time.

The installation consists of four major parts: the melting pit, the sulphur pump, the burner head and spray device, and the burner itself.

The melting pit has three functions to perform, namely, the melting of the sulphur, the storage of the molten sulphur, and the removal of the impurities in the sulphur as it is received by the mill. In general, the pit, which has a capacity of 50,000 pounds of molten sulphur, consists of a rectangular reinforced concrete tank with a structural steel plate liner, set in the floor with the top slightly above the floor level.

Between the liner and the concrete, on all sides and at the bottom, is a ¾ inch space, loosely filled with dry sand, which allows for expansion of the liner. Near the end, where the sulphur is loaded into the pit, is an overpass baffle to collect the heavy impurities; following this is an underpass baffle to segregate the floating impurities. At the other end of the pit, just ahead of the sulphur pumps, is a screen of 70-mesh wire for removing the fine dirt which remains in suspension. The entire pit is covered by hinged doors of steel plate. All steam coils are on the sides of the pit rather than at the bottom.

The sulphur, during transportation to the mill and as a result of the method of storage, becomes contaminated with cinders and dirt. While every effort has been made



SCHEMATIC LAYOUT

Legend: 1, Sulphur buggy. 2, Sulphur scale. 3, Sulphur melting pit. 4, Melting coils. 5, Sulphur pump. 6, Steam jacketed sulphur pipe. 7, Compressed air line. 8, Sulphur burner. 9, Insulating brick. 10, Refractory brick. 11, Baffles. 12, Spray nozzle. 13, Air intake. 14, Hot gas line. 15, Heat Interchanger. 16, Steam connection. 17, Cooled gas line.

* Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Portland, Ore., Sept. 10 to 13, 1934.

[1] Member TAPPI, Technical Director, The Institute of Paper Chemistry, Appleton, Wis.

[2] Member TAPPI. Staff Superintendent for Sulphite, Kimberly-Clark Corporation, Neenah, Wis.

[3] Sulphite Engineer, Kimberly-Clark Corporation, Kimberly, Wis.

[4] Development Engineer, Kimberly-Clark Corporation, Neenah, Wis.

to settle such dirt and to screen it from the final section from which the sulphur is pumped, it was found that this was impossible and that in time so much dirt would accumulate that trouble was experienced from the clogging of the spray nozzle. A high speed mixer was accordingly installed in the last section of the sulphur pit, which is operated once every hour and which keeps the dirt from settling, thereby avoiding an undue accumulation of the dirt. In other words, by removing the dirt as rapidly as it is introduced with the sulphur, its accumulation is prevented and the trouble is thus overcome.

The sulphur pump is a special positive displacement piston or metering pump. It is a double unit, having two complete pumps, so that one unit may be removed for repairs while the other is in operation.

The burner head originally furnished with the burner consisted of a 2 inch KA-2 pipe surrounded by a steam jacket through which a free flow of steam was maintained to act as a cooling medium and protect the head from the temperature within the burner. As an undue quantity of steam was required to secure the desired cooling effect and trouble was experienced due to viscous sulphur, the burner head was modified so that water could be used for cooling. An insulating jacket was placed around the steam jacket and a water jacket around the entire head.

The burner shell is lined with an insulating and refractory lining and is provided with baffles to insure proper mixing of vaporized sulphur and air.

Operation of Burner

Operating this type of burner presents a very pleasant picture. Starting the burner cold, as it is after long shut downs or when new, represents perhaps the most difficult part of the operating procedure. For the Kimberly-Clark milk of lime absorption system of acid making, the vacuum pump is started and adjusted to give the desired amount of air into the burner. Next, the sulphur pump, set to deliver a quantity of sulphur known to be low, is started. The sulphur spray within the burner is lighted with an acetylene torch, after which no changes need be made until the burner becomes warm. The amount of sulphur entering the burner is increased as rapidly as possible, without sublimation, and in about two and one-half hours the gas strength is at maximum. From then on, the operator does nothing to the burner other than to change nozzles in case difficulty is experienced from dirt.

After a normal week-end shut down, starting the burner is extremely simple. The air flow is set as before, and the sulphur pump is started. The temperature within the burner ignites the sulphur and in less than forty-five minutes the gas strength can be brought to maximum. After that, a very small amount of attention is required for the operation of the burner. With the conventional type of equipment, four hours are usually required to come to full gas strength.

In the conventional type of sulphur burner, shutting down is a long drawn-out procedure due to the great quantity of sulphur in the rotating burner, which must be burned out. Moreover, it is impossible to maintain a uniform and high gas concentration because of the manipulation of the secondary air damper necessary to prevent sublimation while the sulphur in the rotating burner is burning down. The time required for shutting down the conventional type of equipment is about six hours. As there is no pool of sulphur in the Texas Gulf Sulphur Company spray burner, it takes but a few minutes to shut down the equipment. A uniform and strong gas is made up to the time of shutting down, and when the sulphur pump is stopped, the burner is down. The vacuum pump is allowed to run for five minutes after the sulphur pump has been stopped, in order to sweep the residual gases from the system.

Varying the capacity is also a very simple operation with the Texas Gulf Sulphur Company spray burner. In decreasing production rate, the stroke of the sulphur pump is shortened and the rate of air entering the burner is decreased by slowing down the vacuum pump so as to give a high gas concentration without sublimation. If the rate of production is to be increased, the air into the burner is increased and the stroke of the sulphur pump is then lengthened.

The gas strength is held between 19.5 and 20.3 per cent sulphur dioxide without sublimation. However, if the ratio of sulphur to air is too great, there will be sublimation because of the fact that there is not sufficient oxygen to oxidize all of the sulphur.

At the Kimberly mill, a spray type cooler is used,—that is, cooling water is sprayed directly into the gas stream. If there is no sublimation, the effluent from the cooler is clear, but when sublimation occurs, the effluent becomes milky due to the finely divided sulphur which it carries. In other types of coolers, sublimation is detected by looking into the gas stream; a clear gas indicates that there is no sublimation, while a cloudy yellowish gas indicates sublimation. The smell of the exhaust gases from the acid absorption system also tells of the occurrence of sublimation, although it is not as good a test as the others. However, there is little excuse of experiencing sublimation with the spray type of burner, and to demonstrate this point the burner has been operated for periods of a week at 20+ per cent sulphur dioxide without sublimation.

Whenever sulphur is oxidized in the presence of nitrogen, a small amount of trioxide is formed along with the dioxide, and the nearer the dioxide is the theoretical 21.0 per cent, the less trioxide is formed. For this reason, the Texas Gulf Sulphur Company spray burner produces very little trioxide, since the gas concentration can be carried so very close to the theoretical 21.0 per cent without danger of periodic sublimation.

Compressed air is used to atomize the molten sulphur pumped into the burner. The air pressure used is 90 pounds, but fairly efficient spraying can be maintained at pressure as low as 60 pounds. A pressure lower than this, however, will decrease the efficiency of the entire burner operation.

Regardless of the rate at which the sulphur is furnished to the burner, the amount of compressed air used is 1.71 pounds per minute at 90 pounds pressure, or 23.65 cubic feet per minute at 80 deg. F. and 14.7 pounds pressure. As this air is taken from the line which supplies the entire mill and the mill consumption is not a constant amount, it has been impossible to determine the value of the compressed air. However, the volume is so small that the cost can be disregarded when comparing operating costs with any other type of burner. For combustion purposes, free air at the rate of 1000 to 1450 cubic feet per minute is admitted, depending upon the quantity of sulphur burned.

During normal operation, the pressure of the sulphur delivered to the burner varies from 5 to 15 pounds per square inch, depending upon the rate of flow. However, if the nozzle becomes clogged with dirt, the pressure is very apt to increase to 50 or 60 pounds. When that condition occurs, the plugged nozzle is removed and a clean one installed,—an operation which requires about three minutes, during which time the burner is not producing sulphur dioxide. The switch for the motor on the pump is so adjusted as to shut off the motor and shut down the

pump at a pressure of 60 pounds at the nozzle. This avoids any possible danger of breaking the steam jacketed piping from the pump to the burner head.

Operating Costs

A comparison of the power cost of operating the conventional type of sulphur burner formerly used at the Kimberly mill, in which sulphur was supplied to the melting pit by a bucket conveyor, and the present cost of power for the Texas Gulf Sulphur Company spray burner favors the latter as being more economical. The conventional type of sulphur burner requires two electric motors, one a 1 h.p. motor which runs constantly and the other a 5 h.p. which is used about forty per cent of the operating time. Only one motor is required for the spray burner, which is a ¾ h.p. and runs continuously. In other words, the type of sulphur burner formerly used at the Kimberly mill required 72 h.p. hours per day, while the Texas Gulf Sulphur Company spray burner installation uses 18 h.p. hours per day, which represents a saving of 75 per cent of the power cost.

The steam costs of the two installations are equal. In either case, only enough steam is required to melt the sulphur and keep it molten.

Although it is logical to assume that the sulphur losses due to sublimation are less in the case of the spray burner than with the conventional type of equipment because of the definite operating control, there is no way of determining the amount of sulphur saved. However, losses due to sulphur trioxide formation have been determined for both types of equipment. These determinations show a loss of 0.14 per cent of the total sulphur used in the spray burner, when a gas of 19.8 per cent was being produced. The loss in the case of the conventional type of burner was 1.45 per cent while producing a gas of 18.5 per cent sulphur dioxide,—its maximum. This saving will amount to 1.31 per cent or $1100.00 per year at the Kimberly mill.

Waste Heat Boiler Installation

As the heat of combustion of sulphur is 3982 b.t.u. per pound, considerable heat is evolved in burning the sulphur required for the operation of a 100-ton sulphite pulp unit. Pyrometer measurements made at frequent intervals determined an operating temperature of the burner of from 2400 to 2700 deg. F. when burning sulphur at the rate of 12 tons per 24 hours.

After operating the spray burner successfully under all possible mill conditions, it was decided to install a waste heat boiler to recover the available heat. Reducing the exit gases from the boiler to 400 deg. F. decidedly simplifies the cooling of the gases prior to their absorption either by a milk of lime or tower system, which is a valuable feature, especially during the warm summer months.

A water tube waste heat boiler has therefore been installed at Kimberly, having 987 square feet of heating surface. The two lower sections of the heating tubes are boiler tubes covered with corrugated cast iron tubes, while the five upper sets of 3 foot tubes are of the gilled ring construction, the final set of roof tubes being covered with a smooth cast iron ring. The construction of the boiler, therefore, is such that the heating surface which is exposed to the waste heat gases will be protected at all times by a cast iron surface, and tube troubles should be reduced to a minimum. The boiler was designed for 300 pounds pressure (according to boiler code) to operate at 190 pounds pressure, the steam being conducted directly into the main steam line of the plant. A feed water temperature of 212 deg. F. is used to produce steam with a temperature of 383 deg. F. at a normal rate of 2000 pounds per hour.

To insure avoidance of air infiltration through brick walls and around the necessary connections with consequent reduction of sulphur dioxide concentration and possible increase in sulphur trioxide content, the boiler has been hermetically sealed in a welded jacket of 12-gage iron, except for a few openings to permit tube inspections and repairs.

As the waste heat boiler is installed in the sulphur burner room, a steam flowmeter and pressure gage and a high and low water alarm have been placed in the boiler house to avoid the necessity of supervision. The boiler itself is equipped with two safety valves set at 205 and 208 pounds, a special triple acting valve which opens or shuts depending upon fluctuations in pressure in the boiler and in the main steam line, and the usual high and low water alarms and safety plugs, as well as an integrating and recording steam flowmeter. Through these devices, direct boiler supervision is rendered unnecessary. Water is furnished to the boiler through an automatic feed water regulator supplied from the main boiler water feed line in the boiler house.

To operate the burner and heat interchanger, a flexible connection has been designed so that, if desired, it is possible to pass the gas through the heat interchanger or bypass directly to the cooler. Even with the burner functioning at maximum production, such a change can be made in fourteen minutes, which makes the equipment extremely flexible.

The Institute of Paper Chemistry wishes to acknowledge the splendid cooperation and assistance received from the Kimberly-Clark Corporation in working out the various mechanical difficulties encountered in the commercial development of the spray burner and waste heat boiler.

Advantages of the Texas Gulf Sulphur Company Spray Type Sulphur Burner

(1) Simplicity of Operation:

The burner requires practically no attention once a definite rate of combustion has been determined. To increase or decrease the rate of combustion requires only the adjustment of the stroke of the sulphur metering pump, which can be done in less than one minute, and an adjustment of the free air supply which can be accomplished by varying the speed of the vacuum or pressure pumps, depending upon the type of adsorption system used.

(2) Starting Up and Shutting Down:

With a cold spray type burner, gas of maximum concentration can be produced in two and one-half hours; with a warm burner, after a week-end shut down, this period is reduced to forty-five minutes. The shutting down of the burner is accomplished simply by stopping the metering pump and turning off the high pressure air. All of these operations are very simple, avoiding any possibility of sublimation which occurs during the burning down period with the conventional type of burner; moreover, practically no supervision is required.

(3) Capacity of Burner:

The burner installation at the Kimberly mill was designed for a sulphur consumption of 12 tons per 24 hours, but the burner has been successfully operated at a rate varying from 6 to 20 tons without experiencing any difficulty whatsoever. The burner is, therefore, extremely flexible insofar as rate of combustion is concerned, which is a very desirable feature in case the acid plant wishes to speed up acid production.

(4) Strength of Burner Gas:

The burner has been operating practically continuously for a period of a year and one-half, producing gas of from 19.5 to 20.0 per cent sulphur dioxide concentration. A gas

of 20.5 per cent sulphur dioxide content has been made repeatedly for a period of eight hours during the day shift, but for continuous operation it is felt that this may be dangerous since, if the air supply were at all reduced, sublimation would occur.

(5) SUBLIMATION:

With proper care, sublimation will not occur with the spray burner, and since there is no burning down period as with the conventional type of equipment, the danger from sublimation is decidedly reduced.

(6) SULPHUR TRIOXIDE:

With a high gas concentration and the ceramic lining used and at the elevated temperatures of the burner, the sulphur trioxide content of the gas going to the cooler is 0.14 per cent of the sulphur burned, in comparison with 1.45 per cent for the conventional type of burner when operated under ideal conditions. This represents a saving of $1100.00 per year at the Kimberly mill.

Reduction of sulphur trioxide content also favors reduction of the corrosion of the alloy steel piping and fittings which are used to so large an extent in the modern sulphite mill.

(7) CALCIUM SULPHATE FORMATION:

With the lowered sulphur trioxide in the finished gas, the calcium sulphate in the cooking liquor is reduced proportionally. This is a very decided advantage from an operating standpoint, in that the possibility of forming so-called "egg shells" in the finished pulp is avoided.

A further very decided advantage is that in the modern circulating system and other systems of sulphite pulping, the deposition of calcium sulphate in the heat interchanger and in the hot lines is decidedly reduced, thereby effecting a saving in operating time and in labor costs for cleaning such piping.

(8) MAINTENANCE COSTS:

No data are available as yet on maintenance costs, as the burner has been operating only a little over one year, but all indications are that such maintenance costs will be low.

(9) INITIAL COST:

The cost of the spray burner installation will compare favorably with any of the conventional types of sulphur burner on the market.

(10) STEAM CONSUMPTION:

The total steam consumption is considered equivalent to that required for the melting of the sulphur in any conventional type of sulphur burner.

(11) HIGH PRESSURE AIR COST:

No figures are available for this item, as the air is taken from the main line of the Kimberly plant. The cost, however, will be negligible.

(12) POWER CONSUMPTION:

For the operation of the pump of the spray burner, 18 h.p. hours per day will be required, in comparison with the 72 h.p. hours required for the conventional type of burner. This means that power costs will be reduced by 75 per cent.

(13) HEAT SAVING WITH THE WATER TUBE WASTE HEAT BOILER:

With the spray burner burning sulphur at the rate of 12 tons per day, there is being produced a minimum of 2500 pounds of steam at 190 pounds pressure per hour. The saving which this represents will vary with each plant, depending upon the coal cost per thousand pounds of steam. The exit temperature of the gas is beyond the dew-point of the gas mixture, so that boiler tubes should give only a minimum of trouble. With gas cooled through a waste heat boiler, the amount of cooling water or cooler area can be reduced, and at the Kimberly mill the exit gases are 20 deg. F. cooler than with the conventional type of equipment, all of which is of decided value in the acid plant.

Literature Cited

(1) Bacon, Raymond F., Paper Trade J. 94. No. 13: 31 (March 31, 1932).

Technical Control in Pulp and Paper Manufacture*

By M. W. Phelps[1]

Progressive developments in mechanical and chemical knowledge during the last century have resulted in the building of large and specialized paper machines, the chemical processes of reducing wood to pulp and an enormous increase in the uses and varieties of paper. The production of cheap, high grade paper due to these developments gave an enormous stimulus to the industrial usage of paper. The printing press was much improved; lithography, half-tone and high speed news presses required a constant high quality in the paper. At the same time a great diversity of uses for paper were found and these uses required certain characteristics in the sheet to operate efficiently and rapidly. The demand of the consumers of paper for uniformity and high quality resulted in the recognition by the paper manufacturer of the need of control of paper quality by the application of scientific methods and scientific testing apparatus.

No longer could the age-old tests of taking a piece of paper, tearing it with and across the grain, chewing it, or punching a few holes with the finger be taken as definite indications of paper quality. Today, the buyers of paper insist on standard quality, this quality is specified in terms of numerous recognized tests performed on standard testing instruments, and the use of these instruments requires a trained staff of expert testers and chemists.

The Technical Control Department

The application of scientific methods to the processing and testing of paper, the training of laboratory personnel and the realization of greater industrial efficiency through application of research are the functions of the modern technical control department. The first requisite in the organization of this department is an adequate and fully trained personnel. The department should be headed by a technical director whose qualifications are mature judgment, comprehensive knowledge of all pulp and paper making processes, and an intimate contact with new developments in the industry. The correlation of the results of investigational work in the laboratory with mill

*Presented at the fall meeting of the Technical Association of the Pulp and Paper Industry, Multnomah Hotel, Portland, Ore., Sept. 10-13, 1934.

[1] Member TAPPI. Asst. Manager, Pacific Mills, Ltd., Ocean Falls, B. C.

operations, the maintenance and improvement of product quality come under his supervision. The director should be responsible only to the manager of operations and his judgments impartial and unifluenced by the mill operators. He has direct charge of the central laboratory manned by a selected staff of trained chemists, and of his subordinate executives controlling the testing stations from which are spread ramifications to the various key processes of the pulp and paper mills.

The co-ordination of technical control and mill operation is a major problem which is dependent on correct selection and training of technical personnel. The value of a carefully organized laboratory may be seriously depreciated if the mill operators are antagonistic or indifferent to the application of scientific management. Where such a condition exists, the fault almost entirely lies with the incorrect functioning of the technical control department. Laboratory personnel that has undertaken an apprenticeship course through mill operations is more appreciative of process limitations, and develops a mill personality that facilitates harmonious relations with the operating superintendents. This does not infer that any laxity of control is tolerated, but the value of technical work must be put across the operators in such a manner that their cooperation and interest are readily obtained. Only by such a coordination can substantial benefit be realized from technical control.

The functions of the technical control department may be divided into five sections, each of which is inter-related and has an effect on the quality of the final product shipped from the mill. These are briefly:

(a) The testing of raw materials.
(b) Process control of mill operations.
(c) Testing of finished product.
(d) Service and sales development.
(e) Research.

The last two sections may be separated from the technical control department if so warranted by the amount and nature of research development work. There is a natural division in the functions of mill operation and research that makes such a separation desirable and in some cases essential.

The Testing of Raw Materials

The purchase of raw material on specification is an important procedure in maintaining purity and consistent quality in the raw materials, some of which are integral constituents of the finished sheet and others used solely in processing. The main object of purchase specifications is to assure the buyer a specific predetermined quality which by laboratory and mill test has proven to yield the best results at reasonable cost. This object may be attained by use of four classes of specifications:

1. Specifications of chemical ingredients alone.
2. Specifications covering physical qualities or service requirements.
3. Combination specifications covering both chemical ingredients and physical qualities.
4. Brand specifications.

Raw materials used in pulp and paper manufacture are of such diverse types that no particular class of specifications would definitely fix their value. Seemingly intangible qualities of the material, the physical characteristics of which cannot be accurately computed from chemical constants limit the scope of the first two specification classes. The combination specification, citing as major item—service requirements, and minor item—chemical ingredients, or vice versa as need may be; covers all variables and eliminates possibility of adulteration. These specifications can be made as broad as necessary but care must be taken that the purchase specifications are not so difficult to meet that the buyer is penalized for non-essential qualities in either price or available supply.

The final "brand" type of specification is effective only on brands that have established their value through a sufficient period of actual use. The disadvantage of this system is the elimination of the desirable competitive conditions which are necessary for price or quality improvement.

Before specifications can be prepared or contracts entered into for purchase of any raw material it is necessary that a standard testing procedure be adopted. A.S.T.M. methods are standard for many industries and where possible A.S.T.M. procedures should be followed. The promulgation of TAPPI standards forms a basis for the specialized procedures peculiar to the paper industry and should therefore be particularly valuable when completed.

Process Control of Mill Operation

Each step in the manufacture of pulp and paper requires a very careful chemical control. The processes and variable factors present in a large specialty mill manufacturing kraft, groundwood and sulphite papers may be briefly summarized as follows:

1. *Water purification.* Water is the vehicle that carries the fiber through the mill and on its purity depends the color and cleanliness of the final product. The raw, settled and filtered water are tested for color, turbidity, iron content, alkalinity to regulate alum dosage, pH concentration and residual chlorine. Boiler plant feed water should be analyzed for turbidity, alkalinity and total hardness so that the zeolite softeners and oil filters will deliver soft, clarified water to the boilers. The adjustment of buffer chemicals in the feed water to prevent caustic embrittlement requires further analytical testing.

2. *Woodmill and chipper plant.* The rafted logs as they ar scaled are classified into specie and percentages of rot, burn and sinker. Hog fuel refuse from the bark press is sampled for moisture. Representative samples of chips are taken from each chipper and screened into different chip sizes, the percentages of which are compared with the required standards. Composite samples are taken daily from the conveyors to the pulp mills and moisture tests taken to control variables in cooking which might occur due to wet wood.

3. *Kraft mill.* The composition of green and white liquors; kiln operation; evaporator densities and losses; smelter efficiency; evaporator operation; washer efficiencies; soda losses and inventories; sewer losses; lime mud filter and clarifier operation are under continuous control. Representative cooks are taken from the blow tank and beaten in an Abbe-ball mill for varying times. Hand sheets prepared from this stock are tested for strength. The stock is also examined for color, shives, dirt and hardness.

4. *Groundwood mill.* Variable factors in groundwood manufacture such as freeness, strength, stone operation; temperatures, amount of jigging, shives, blue glass, color, and dirt are frequently checked and compared to the standards adopted for the paper grade in which the stock is to be used.

5. *Sulphite mill and bleach plant.* Representative samples of cooking acid, raw acid, burner and tower exhaust gases are taken at regular intervals throughout the day and tested by process chemists for confirmation with the established standards of operation. Every cook as soon as blown

is sampled in the blow tank, the sample washed, screened, centrifuged and from this stock bleachability numbers, freeness, color tests and strength tests in mullen, tear and fold are determined at various beating times. Samples of the blow pit stock are also examined before screening for burnt chips, uncooked chips, degree of cooking, etc. Frequent samples of the deckered sulphite are taken for dirt count and washing efficiency (pH). Complete tests so obtained are reported back to the cooks within 90 minutes after blowing so that all subsequent digesters may be handled to give a uniformly high standard of pulp. Lapped pulp is sampled for moisture content, in the case of mill usage stock by edge to edge strip on the press roll and in market pulp by the standard wedge method. Pressures, temperatures, and other variable factors affecting the cooking process are collated and recorded.

In the bleach plant, the chlorination process is controlled by routine chemical analysis of bleach liquor, sludge losses and chlorinating temperatures. Consistencies, washer efficiencies, color rating of the bleached pulp by photronic instruments, chemical pulp evaluation tests, dirt count, and strength on beating are regularly taken.

6. *Paper mill process.* Much of the success in producing low cost paper with a high standard of quality is affected by process control in the paper mill. Hydrogenon control is important in standardizing the coloring and sizing of paper. Standardized operation of the beaters and jordans is assured by consistency, freeness and strength tests taken at frequent intervals and compared with established standards of past operation. The control of the b.d. solid content of size emulsions, liquid alum, clay, titanium pigments, liquid aniline, hydro-sulphite and other chemicals metered to the beaters is very important. Automatic samplers and liquid level recorders should be maintained on all weirs for white water, filtrate or miscellaneous effluents from each machine to the mill sewers. At the same time, a patrol of the mill basement in order to detect unrecorded losses due to accident or design are made several times a shift. Any excessive stock loss is immediately brought to the attention of the responsible parties and the supervision. Tabulated data on save-all efficiency are prepared daily and recapitulated weekly.

All felts, wires and jackets taken from the machine are sampled and tested. These physical tests are compared with days life, paper quality and steam costs in order to determine whether the style, weave, machine operation and equipment are up to the required standard. Head box consistencies and levels, suctions, shake, stock temperatures, press operation, web moisture and miscellaneous other tests are also taken for comparison with past operation. Standards for wet end variables obtained by collation of these data have been particularly valuable in prevention of low efficiency on grade changes.

The Testing of Finished Products

The testing of paper is performed for two primary purposes: (1) To study the manufacturing processes respecting their improvements, or the improvement in the quality of the paper. (2) To maintain a predetermined quality as set up by previous performance or by customer's specifications.

The testing procedures standardized by TAPPI permit comparison of the test data with standard specifications of quality. However, in considering test results, tolerances must be allowed for unavoidable variations caused by the inherent non-uniformity of paper and errors inherent in the testing methods. The extent of permissible tolerance varies with the nature of the paper and of the test used, and is determined for each particular case with consideration of these factors.

The compilation of a specification book which details the quality requirements of all grades is essential. The general tolerance limit must, of course, be specifically set for each test since factors of considerable moment in the grading of one paper type may not be of much importance on another type. The standard specification sheets should be in loose-leaf form so that changes or re-issues can be inserted when necessary. The responsible parties to shipment of paper; i.e., representatives of the paper mill supervision and technical control, should approve each specification before it becomes effective.

The function of the inspection department is partly to make and record paper tests, but chiefly to control paper quality by reporting back to the machine crew any deviations from standards performance. These deviations should not be allowed to persist and after a maximum of two sets of off-quality paper has been produced, this amount to allow for machine adjustment; a pink "caution" form calling attention to the defect is issued to the machine tender and shift foreman. If the defect persists a red "danger" form is filled out and the paper mill superintendent and technical director advised immediately of the condition causing expensive rejection of the paper. The issuance of this red form against a machine is an indication of poor workmanship and the morale effect is very favorable to promoting corrective effort on the part of the paper makers.

The personnel of the paper inspection group should be carefully chosen in order to secure only active, alert young men since much of the success of technical control is dependent on the personality, observation and activity of the paper testers. The duties of these men include determination of all the regular tests on representative samples of the paper as well as performance of numerous special tests on papers used for more specific purposes. These tests should be done under standard hygrometric conditions in a central paper testing station, the samples being sent by the general inspectors from each machine by air conveyor tubes to the constant humidity test room. Results are reported back to the machine within a few minutes after the reel has turned up and posted on the inspection report at each machine. The general inspector covers five or six machines, and has other important duties in addition to the collection of samples for submission to the test station. Mechanical defects, such as slime holes, calender cuts, buckles, soft, winding, etc., are as serious in causing customer complaint as low strength. These defects are sufficient cause for rejection of the paper.

The use of quality incentives taking the form of either direct monetary premium or posted recognition, is very useful in promoting the interest of the paper makers in paper quality. This end may be accomplished by dividing the paper specification into selected major characteristics which are of first importance in determining the quality of the paper, and minor characteristics not so essential but useful to have on record. These major characteristics are then separated into three classes:

Class A. Preferred rating, meeting the specified test within narrow limits.

Class B. Passable rating, variation from the specification but not great enough to warrant rejection.

Class C. Rejected, the test is so variant or out of line with specification that the paper cannot be shipped.

The paper quality incentive is based on the per cent. of grade A, B and C paper produced. Each factor is weighed, grade A—plus 100 per cent. grade B—plus 60 per cent., and grade C—minus 100 per cent. We have found this system to be effective in promoting quality both by means

of the competitive rating of machine crews and by small premium incentive for meeting the quality specifications.

Service and Sales Development

Under this division come various essential duties which may be briefly summarized as follows:

1. *Samples of Standard Product:* The sales offices are stocked with representative samples of out-turn sheets; standard quality sheets, swatches of various converted or semi-converted products and data sheets. These are prepared or approved by the technical control. Technical data required in initiating sale of a new product or promoting more intensive sales effort on standard product are prepared in collaboration with the salesmen in the field.

2. *Analysis of Trade Samples:* The physical and chemical properties of submitted samples of paper must be carefully analyzed. This analysis is then interpreted into operation procedure and specifications drawn up for the mill to follow so that the customer's sample may be exactly duplicated.

3. *Analysis of Customer Usage and Customer Contact:* It is absolutely necessary in the development or improvement of a new paper grade to secure an accurate analysis of the customer usage. This requires a field survey of the problem by a representative of the Technical Control Department in collaboration with a sales representative. The information so obtained forms a reliable basis on which the mill may proceed to initiate manufacturing improvements or develop a new product with least wastage of time or production. Customer contact maintained by periodic trips of a technical representative aids greatly in promoting a spirit of confidence and cooperation that will go a long way toward the desired end of securing "customer demand" rather than the less desirable and dangerous attitude of "customer acceptance" of the mill's product.

4. *Investigation and Reports on Complaints:* The technical control department is in intimate contact with all manufacturing operations, and is consequently well adapted to follow up and investigate all complaints on quality of product. When a complaint comes in, it is carefully examined to determine its validity before discussion with the operators responsible. This discussion exposes defects in machine or process operation that must be corrected; or where lack of individual efficiency, or carelessness is responsible, penalties are decided upon. When necessary, customer contact is made to clear up a situation that is not completely covered by the sales correspondence.

Research

Research may be classified into two natural divisions, namely, fundamental and industrial research. It is often questionable if fundamental research will pay rapidly enough to warrant the large expenditures of time and money usually entailed. Much of the fundamental research work for the industry can be delegated to the various governmental or university laboratories, thus permitting the Technical Control Department to concentrate on the innumerable applied research problems that bring a faster and more certain realization.

A systematic plan for the initiation, development and use of a research project is essential. The request for investigation may originate from the management, from the cost department, the sales offices or large users of the paper. Every project must be carefully examined before work is commenced in order to determine definitely the advantages that may arise from a successful conclusion of the problem. If the work will affect one or more of the following advantages:

(1) Reduce cost of production;
(2) Reduce conversion costs to the user;
(3) Improve the quality of the product so that either a higher price or increased customer demand is experienced;
(4) Produce new business;
(5) Determine technical data contributory to some other project, such as development of by-products and abatement of nuisances;
(6) Permit the use of cheaper furnishes or processes active consideration should be given to the rapid solution of the project.

The initiation of the problem, after authorization by the executives responsible for the financial control of the research, should follow well planned lines. The project should be presented to show:

(a) The "objective" or results to be obtained.
(b) The "scope" or extent of the work.
(c) The "attack" or technical description of the project.
(d) The "savings," in dollars and cents, that should result if the problem is successfully solved.
(e) The "estimated cost" of the project.
(f) The "schedule," which is a rough estimate of the completion of various stages of the problem, and the date of final completion.

A follow-up is necessary on all projects under active consideration, this follow-up consisting of weekly progress reports prepared by the chemists working on the problem. Emphasis must be frequently stressed on the importance of proceeding to the final conclusion without wasteful digression into side-tracks which appear interesting but unduly prolong and may vitiate by delay and value, and completion, of the research.

The dividends paid by well organized research work are much in excess of the average cost of the research, and this fact should be remembered when the expenditure of much effort and capital is requested to make a workable commercial process out of the primary research developments. Unfortunately, many research projects require a considerable time before any financial return is obtained, but we have only to examine the proven results of organized research in several of the major industries of this country to realize that the research development is intimately connected with progress in both the industrial efficiency and earning power of a corporation.

Starch from Waste Sweet Potatoes May Find Use in Paper Industry

That sweet potato culls offer a possible source of starch for sizing paper and for paper adhesive has been revealed as a result of recent experimental tests conducted by the National Bureau of Standards.

The culls, it is pointed out, constitute a huge waste in the southern states and the Standards Bureau and the Bureau of Chemistry and Soils are jointly cooperating to determine if the culls may be profitably utilized.

Cornstarch and cassava starch are used extensively in book papers to improve their printing quality. The National Bureau of Standards has made and tested wood-fiber book papers sized with these starches and with sweet potato starch and found that the latter compared very favorably with the others. The same kind of experiments are now being made with rag-fiber papers.

It is planned to extend these semi-commercial tests to trials on a commercial scale as soon as sufficient sweet potato starch is made available through production of it in a commercial plant now being built.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING OCTOBER 20, 1934

CIGARETTE PAPER

Champagne Paper Corp., Collamer, Havre, 305 cs.; Liggett & Myers Tobacco Co., Ile de France, Havre, 26 cs.; Standard Products Corp, Ile de France, Havre, 117 cs.; American Tobacco Co., Washington, Havre, 80 cs.

WALL PAPER

———, Washington, Havre, 13 cs.; ———, Fred. VIII, Oslo, 3 cs.; Schmidt & Pritchard, Bergensfjord, Oslo, 1 cs.

WALL BOARD

Treetex Corp., Bockenheim, Horneborg, 2,888 bdls.

NEWSPRINT

American Newspapers, Inc., Markland, Liverpool, N. S., 387 rolls; N. Y. Tribune, Markland, Liverpool, N. S., 1,443 rolls; World Telegram, Markland, Liverpool, N. S., 622 rolls; Bridgeport Herald, Markland, Liverpool, N. S., 38 rolls; Gilman Paper Co., Markland, Liverpool, N. S., 585 rolls; News Syndicate Co., Inc., N. Y. News, Thorold, 2,347 rolls; Jay Madden Corp., Blankaholm, Kotka, 553 rolls; Perkins Goodwin & Co., A. Ballin, Hamburg, 74 rolls; Jay Madden Corp., A. Ballin, Bremen, 117 rolls; M. Stone, Lagaholm, Sundsvall, 37 rolls; ———, Bergensfjord, Oslo, 607 rolls.

WRAPPING PAPER

Heemsoth Pinkus & Kerner, Statendam, Rotterdam, 66 bls.; Rohner Gehrig & Co., J. Jadot, Antwerp, 2 cs.; Van Oppen & Co., Excambion, Genoa, 23 cs.

KRAFT PAPER

Walker Goulard Plehn Co., Washington, Hamburg, 630 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., A. Banker, London, 12 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., A. Banker, London, 9 cs.; W. Imlay, Excambion, Marseilles, 11 bls.

SURFACE COATED PAPER

Gevaert Co. of America, Westernland, Antwerp, 73 cs.; Phoenix Shipping Co., A. Ballin, Hamburg, 2 cs.; Globe Shipping Co., A. Ballin, Bremen, 10 crates; Chas. Happel, A. Ballin, Bremen, 3 cs.

METAL COATED PAPER

K. Pauli Co., A. Ballin, Hamburg, 25 cs.; K. Pauli Co., A. Ballin, Bremen, 22 cs.

COATED PAPER

Chas. Happel, A. Ballin, Hamburg, 2 cs.

PARCHMENT PAPER

National City Bank, A. Ballin, Hamburg, 1 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Britannic, Liverpool, 14 cs. (duplex).

DECALCOMANIAS

Sellers Transportation Co., A. Ballin, Hamburg, 20 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., Britannic, Liverpool, 4 cs.; ———, Ile de France, Havre, 9 cs.; W. J. Byrnes, Aquitania, Southampton, 1 cs.

COPYING PAPER

Roneo Co., A. Banker, London, 6 rolls.

SILK PAPER

Van Oppen & Co., Excambion, Marseilles, 5 cs.

MISCELLANEOUS PAPER

Keller Dorian Paper Co., Ile de France, Havre, 5 cs.; Keller Dorian Paper Co., Excambion, Marseilles, 6 cs.; C. Bruning Co., Estrella, Marseilles, 5 cs.; Moller Products Corp., Uyo Maru, Yokohama, 4 cs.; H. Reeve Angel & Co., Inc., Uyo Maru, Yokohama, 3 cs.; J. P. Heffernan Paper Co., Habana, Bilbao, 25 bls.

RAGS, BAGGINGS, ETC.

J. Cohen & Son, A. Banker, London, 27 bls. rags; E. J. Keller Co., Inc., Collamer, ———, 197 bls. paper stock; The Barrett Co., Collamer, Havre, 98 bls. bagging; E. J. Keller Co., Inc., Excambion, ———, 51 bls. bagging; Banco Coml Italiane Trust Co., Estrella, Barcelona, 222 bls. rags; ———, Estrella, Barcelona, 244 bls. rags; Mitsui & Co., Ltd., Uyo Maru, ———, 150 bls. cotton waste; Banco Coml Italiane Trust Co., A. Ballin, Hamburg, 16 bls. rags; E. J. Keller Co., Inc., Ingria, ———, 103 bls. rags; Leigh Textile Co., Ingria, Barcelona, 246 bls. cotton waste; ———, Ingria, Barcelona, 129 bls. old cottons; S. Birkenstein & Son, Ingria, Barcelona, 160 bls. old cottons; E. J. Keller Co., Inc., Fred. VIII, ———, 35 bls. paper stock; E. J. Keller Co, Inc, Schodack, ———, 32 bls. paper stock.

HIDE GLUE

———, A. Ballin, Hamburg, 10 bags.

OLD ROPE

Chase National Bank, A. Banker, London, 104 coils.

WOOD PULP

Lagerloef Trading Co., Blankaholm, Helsingfors, 130 bls. mechanical pulp; Castle & Overton, Inc., Blankaholm, Wiborg, 776 bls. wood pulp; Castle & Overton, Inc., A. Ballin, Hamburg, 1,008 bls. wood pulp, 181 tons; Castle & Overton, Inc., Bockenheim, Karlsborg, 1,250 bls. wood

pulp, 250 tons; J. Andersen & Co., Bockenheim, Karlsborg, 1,250 bls. chemical pulp, 250 tons; ———, Bockenheim, Kopmanholman, 1,224 bls. chemical pulp, 200 tons; ———, Bockenheim, Sundsvall, 150 bls. sulphite; Price & Pierce, Ltd., Bockenheim, Walvik, 2,100 bls. sulphite, 350 tons; Price & Pierce, Ltd., Bockenheim, Walvik, 625 bls. mechanical pulp, 125 tons; Bulkley Dunton & Co., Lagaholm, ———, 2,625 bls. wood pulp; Johaneson Wales & Sparre, Inc., Lagaholm, Sundsvall, 3,875 bls. sulphite; Johaneson Wales & Sparre, Inc., Lagaholm, Sundsvall, 600 bls. sulphate; ———, Lagaholm, Hernosand, 1,920 bls. sulphite, 320 tons; ———, Lagaholm, Hernosand, 5,674 bls. sulphate, 945 tons; Chemical Bank Trust Co., Bergensfjord, Oslo, 300 bls. sulphite; J. Andersen & Co., Berkensfjord, Oslo, 1,665 bls. sulphite; Irving Trust Co., Bergensfjord, Oslo, 450 bls. mechanical pulp; M. Sone, Washington, Hamburg, 162 bls. wood pulp, 25 tons; M. Sone, New York, Hamburg, 327 bls. wood pulp, 50 tons.

ALBANY IMPORTS

WEEK ENDING OCTOBER 20, 1934

International Paper Co., Topdalsfjord, Newcastle, N. B., 2,148 cords pulpwood.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 20, 1934

Bulkley Dunton & Co., Bockenheim, ———, 1,500 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 20, 1934

G. F. Malcolm, Inc., Britannic, Liverpool, 17 cs. tissue paper; Bulkley Dunton & Co., Kersten Miles, ———, 4,850 bls. wood pulp; Parsons & Whittemore, Inc., Capulin, ———, 500 bls. sulphite; Parsons & Whittemore, Inc., Wido, ———, 500 bls. sulphite.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 20, 1934

J. M. Maris Co., Collamer, Havre, 8 cs. filter paper; Castle & Overton, Inc., Collamer, Dunkirk, 123 bls. rags; Corn Exchange Bank Trust Co., Uyo Maru, Kobe, 100 bls. rags; Johaneson Wales & Sparre, Inc., Lagaholm, Sundsvall, 3,000 bls. sulphite; Johaneson Wales & Sparre, Inc., Lagaholm, Sundsvall, 180 bls. sulphate; Mead Sales Co., Inc., Lagaholm, Sundsvall, 1,200 bls. sulphite; Bulkley Dunton & Co., Lagaholm, ———, 500 bls. sulphite; Bulkley Dunton & Co., West Arrow, ———, 270 bls. wood pulp; Bulkley Dunton & Co., Eiffel, ———, 900 bls. wood pulp; E. J. Keller Co., Inc., Exchange, ———, 197 bls. paper stock.

CAMDEN IMPORTS

WEEK ENDING OCTOBER 20, 1934

Bulkley Dunton & Co., Lagaholm, ———, 1,100 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 20, 1934

N. Y. Trust Co., Breedyk, Rotterdam, 1,080 bls. wood pulp; ———, Uyo Maru, Kobe, 229 bls. rags; Bulkley Dunton & Co., Tana, ———, 375 bls. wood pulp; Bulkley Dunton & Co., City of Newport News, ———, 1,900 bls. wood pulp; Parsons & Whittemore, Inc., City of Havre, ———, 125 bls. sulphite; Bulkley Dunton & Co., Kersten Miles, ———, 2,500 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING OCTOBER 20, 1934

Bulkley Dunton & Co., Lagaholm, ———, 4,465 bls. sulphate; Johaneson Wales & Sparre, Inc., Jagaholm, Sundsvall, 500 bls. chemical pulp.

NEW ORLEANS IMPORTS

WEEK ENDING OCTOBER 20, 1934

Parsons & Whittemore, Inc., Vasaholm, ———, 203 bls. sulphite.

To Speak on "Nature of the Combination Between Dye and Fiber"

The October meeting of the New York Section of the American Association of Textile Chemists and Colorists will be held at the Chemists' Club, 52 East 41st street, on Friday evening, October 26. Extreme good fortune has enabled the program committee to secure the services of Dr. Jerome Alexander who will speak on "The Nature of the Combination Between Dye and Fiber"

Dr. Alexander needs no introduction to the members of the New York Section for he is well known as the author of "Colloidal Chemistry" and as the translator of Zsigmondy's "Colloids and the Ultramicroscope." He is also a secretary of the Societe de Chemie Industrielle. Colloidal chemistry, as it exists in the minds of a great many persons, presents a rather confused picture. Dr. Alexander's qualifications in this field identify him as the one person suitable to clear up this confusion. The discussion following the presentation of the paper will have more than the usual importance due to the interesting aspects of the subject.

As usual the meeting will start at 8 P.M. preceded by an informal dinner at 6:30 P.M. The price of the dinner will be $1.25 and the usual registration fee of 25 cents will continue.

Boston Paper Market Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 22, 1934—Better, as a whole, than a year ago, the Boston paper market was from fair to good during the week under review. The market has been fairly steady for some time, with a feeling in the trade that the price structure must be upheld if merchants "expect to stay in business." A slight improvement is noted in fine paper. Box coverings are reported to be in very good demand. Wrapping paper was moderately active. The greeting card trade is under way, with some very attractive new items being offered. The box board market remained in about the same condition, with hardly better than a fair movement.

The week in paper stock was quiet as a whole. A sizable sale of corrugated boxes, 100 tons, took place at .32½. Prices are unchanged throughout the list, not only in old papers, but in bagging, new and old domestic rags and foreign rags.

Old Colony to Dismiss Married Women

[FROM OUR REGULAR CORRESPONDENT]

WESTFIELD, Mass., October 22, 1934—The Old Colony Envelope Company has sent notices to all its married women employees to end their service by June 1, next. Women employees who plan to be married are asked to terminate their service six months before marriage. These rulings, which will affect a large number of employees, were adopted recently by the management.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 24, 1934.

Sentiment in the local paper market is becoming more optimistic. Demand for the various standard grades of paper is slightly better and the outlook for the remainder of the year is promising. Sales forces of the leading paper organizations are conducting a strenuous campaign for orders. Prices are generally holding to schedule.

The newsprint paper market is displaying strength and rumors of higher prices in the near future are persistent. Gains in retail and classified lineage in newspapers of fifty-two cities measured by Media Records, Inc., in September, as compared with September, 1933, were responsible for an increase of 4.05 per cent in total lineage.

Some improvement was noticed in the fine paper market and book, cover and writing papers are in slightly better request. Tissues are moving into consumption in good volume. The coarse paper market is sharing in the general improvement. Paper specialties, also, are arousing more interest. The paper board market is fairly steady.

Mechanical Pulp

The ground wood pulp market is practically unchanged. Manufacturing operations in the United States, Canada and abroad are being maintained in sufficient volume to take care of current requirements and there are no undue accumulations. Prices are generally holding to previously quoted levels, and reports of concessions are infrequent.

Chemical Pulp

Conditions in the chemical pulp market are fairly satisfactory. Demand for the various domestic and imported grades is moderately active. Prices are generally steady and unchanged, although domestic kraft pulp is easier and is now selling at from $1.60 to $2.25 per 100 pounds, f.o.b. pulp mill.

Old Rope and Bagging

The old rope market is exhibiting a stronger undertone. While the prevailing demand for old manila rope is light, more lively trading is anticipated in the near future. Small mixed rope is fairly steady. The bagging market is spotty. Demand for gunny bagging is less active, while scrap bagging is listless.

Rags

Paper mill interest in the domestic rag market is more in evidence than of late. Demand for new cotton rags is improving. No. 1 white shirt cuttings are in good request for export. Roofing grades are more buoyant, in sympathy with the Government's housing program. The imported rag market is still affected by the foreign exchange situation.

Waste Paper

The paper stock market is in a somewhat stronger position, due to the curtailment movement instituted by the dealers to discourage collections for the present. Nevertheless, demand from the board mills is still restricted. Prices of No. 1 mixed paper and strictly folded news are holding to the established minimum recently announced.

Twine

Business in the local twine market is being conducted along seasonal lines. The outlook for the closing months of the year is considered bright, in most quarters. Paper makers' twine is now quoted at from 7 to 11½ cents and wrapping twine at from 12 to 17 cents, according to grade. Fine India twine is selling at from 16 to 20 cents.

Census of Envelopes 1933

Wage-earner employment in the manufacture of envelopes increased considerably during the fall of 1933, according to a preliminary report compiled from data collected in the Biennial Census of Manufactures taken in 1934, released today by Director William L. Austin, Bureau of the Census, Department of Commerce. The figures for the final months of the several quarters of the year show 6,943 wage earners on the pay rolls in March, 7,040 in June, 6,946 in September, and 7,864 in December.

The total value of products made in 1933 by establishments engaged primarily in the manufacture of envelopes amounted to $33,895,512 (at f.o.b. factory prices), as against $46,943,261 reported for 1931 (the last preceding census year) and $61,286,992 for 1929. The rates of decrease for the two biennial periods are: 1931-1933, 27.8 per cent; 1929-1931, 23.4 per cent.

Statistics for 1933, with comparative figures for earlier years, are given in the following tables. All figures for 1933 are preliminary and subject to revision.

TABLE 1.—SUMMARY FOR THE INDUSTRY: 1933, 1931, AND 1929

	1933	1931	1929
Number of establishments	163	162	171
Wage earners (average for the year)[1]	7,981	8,924	10,367
Wages[2]	$6,754,947	$9,658,173	$11,526,849
Cost of materials, fuel, and purchased electric energy[2]	$15,917,674	$22,452,160	$29,927,683
Products, total value[2]	$33,895,512	$46,943,261	$61,286,992
Envelopes[3]	$31,571,177	$43,706,376	$56,605,538
Other products	$2,324,335	$3,236,885	$4,681,454
Value added by manufacture[4]	$17,977,838	$24,491,101	$31,359,309

[1] Not including salaried officers and employees. Data for such officers and employees will be included in a later report. The item for wage earners is an average of the numbers reported for the several months of the year. In calculating it, equal weight must be given to full-time and part-time wage earners (not reported separately by the manufacturers), and for this reason it exceeds the number that would have been required to perform the work done in the industry if all wage earners had been continuously employed throughout the year. The quotient obtained by dividing the amount of wages by the average number of wage earners can not, therefore, be accepted as representing the average wage received by full-time wage earners. In making comparisons between the figures for 1933 and those for earlier years, the possibility that the proportion of part-time employment varied from year to year should be taken into account.

[2] Manufacturers' profits or losses can not be calculated from the census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

[3] In addition, envelopes are made to some extent as secondary products by establishments engaged primarily in other lines of manufacture.

[4] Value of products less cost of materials, fuel, and purchased electric energy.

TABLE 2.—WAGE EARNERS, BY QUARTERS: 1933 AND 1931

(The figure given for the final month of each quarter is the total number of wage earners on the pay rolls for the week including the fifteenth day of the month, or for some other representative week in the month.)

Census year	March	June	September	December
1933	6,943	7,040	6,946	7,864
1931	9,124	8,922	8,753	8,692

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 24, 1934.

BLANC FIXE.—Conditions in the blanc fixe market are fairly satisfactory. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. The contract movement is normal for the season. Prices remain steady. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is rather quiet. Domestic standard ground is quoted at 10 cents and finely ground at 11 cents per pound; while Argentine standard ground is offered at 14 cents and finely ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. The contract movement is well up to average. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is fairly active. Prices are holding to schedule, in most instances. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at works.

CHLORINE.—Demand for chlorine from the paper mills is well sustained. Contract shipments are moving in good volume. Prices are firmer. Chlorine is quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is strong. Paper making gum rosin is quoted at $4.40 and FF wood rosin at $4.50 per 280 pounds, gross weight in barrels, at southern shipping points. Seventy per cent rosin size is selling at $2.57 per 100 pounds, in tank cars, at works.

SALT CAKE.—Business in the salt cake market is fairly brisk. Prices are unchanged. Salt cake is quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works. Imported salt cake is selling at from $12 to $12.50 per ton, at works.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Producers are booking contracts for 1935 at unchanged price levels. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—With quotations on the basic product fluctuating, the starch market is irregular. The contract movement is seasonal. Special paper making starch is now selling at $3.47 per 100 pounds, in bags; and at $3.74 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Paper mill demand for sulphate of alumina is fairly persistent. Prices are holding to schedule. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads the quotation is $21 per ton.

TALC.—Although the talc market is only moderately active at present quotations continue steady and unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on deck.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	*@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	40.00	@	45.00
Chip	37.50	@	40.00
Sgl. Mla. Ll. Chip	47.50	@	52.50
Jute Lined Chip	47.50	@	52.00
White Patent Coated	60.00	@	65.00
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	22.00	@	24.00
Dry	23.00	@	24.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	22.00	@	26.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.55	@	1.65

(F.o.b. Pulp Mill)

Kraft Domestic	1.60	@	2.25

(Delivered)

Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	5.75	@	6.00
Silesias No. 1	3.75	@	4.00
New Unbleached	6.25	@	6.50
New Soft Blacks	3.00	@	3.25
Blue Overall	3.50	@	3.75
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.10	@	1.25
No. 2	.80	@	.85
No. 3	.70	@	.75
No. 4	.65	@	.70
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.40	@	1.60
Dark Cottons	1.00	@	1.10
Old Shopperies	.95	@	1.00
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.25
Manila Rope—			
Foreign	2.35	@	2.45
Domestic	2.25	@	2.50
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.70	@	2.80
Ordinary Hard White No. 1	2.15	@	2.25
Hard White No. 2	1.95	@	2.05
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.80	@	.90
Over issue Mag.	.80	@	.90
Solid Flat Book	.65	@	.75
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.15	@	1.25
Strictly Overissue	.65	@	.70
Strictly Folded	.42½	@	.50
No. 1 Mixed Paper	.32½	@	.40

ENGLISH ECCO CLAYS CLAYS

ECCO CLAYS TRADE MARK

Uniform—Superior—Dependable

ENGLISH CHINA CLAYS SALES CORPORATION
551 FIFTH AVENUE, NEW YORK CITY

Superintendents ●

are you making WHITE PAPER?

WE have a new Sample Card, showing the best Blue for tinting all grades of Ledger, Bond, Bristol, Bag and Newsprint, which will be of great assistance to you.

If you have not received your copy from our representative, write for Sample Card #14-ET.

HELLER & MERZ
DIVISION OF THE CALCO CHEMICAL CO., INC.
90 West Street, New York, N. Y.
BOSTON CHICAGO SPRINGFIELD, MASS.
35 Hartford St. 146 W. Kinzie St. 40 Albert St.
PHILADELPHIA—South St. and Delaware Ave.
Factories *A Unit of American Cyanamid Company*
BOUND BROOK, N. J. and NEWARK, N. J.

1864 1934

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America.

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

SOLD DIRECT AND BY

BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y.

J. Andersen & Co.

Selling Agents
21 East 40th Street
New York

CHEMICAL & MECHANICAL PULP

Kraft Pulp
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
KALIX TRÄINDUSTRI AKTIEBOLAG
Vanaffärden, Sweden
MUNKSUNDS AKTIEBOLAG
Munksund, Sweden
NENSJÖ CELLULOSA A.-B.
Sprängsviken, Sweden

Bleached Sulphite
KELLNER-PARTINGTON PAPER PULP CO., LTD.
Sarpsborg, Norway
Edsvalla, Sweden
Hallein & Villach, Austria

Unbleached Sulphite
AKTIESELSKABET GREAKER CELLULOSEFABRIK
Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bratislava, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

Twines
(F. o. b. Mill)

Coarse Polished—			
India	.11¼	@	.13¾
Belg. White Hemp	.12¼	@	.15¾
India Compress	.11¾	@	.12¼
Fine Polished—			
Fine India	.16	@	.20
Special	.16	@	.18
B. C.	.25½	@	.27½
Unpolished—			
Box	.10	@	.10½
Paper Makers	.07	@	.11½
Tube Rope	.08	@	.13½
Wall Paper	.09	@	.12½
Wrapping	.12	@	.17
Special	.12	@	—
Soft Fiber Rope	.10¼	@	.10¾

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12		.50
Water Marked Sulphite Bond	.06¾		.11
Sulphite Bond	.05½		.11
Superfine Writing	.18		.24
No. 1 M. F. Book	.06½		.07¾
No. 2 M. F. Book	.05¾		.06¼
No. 1 S.&S.C. Book	.06¼		.07¾
No. 2 S.&S.C. Book	.05¾		.06½
Coated Book	.07		.12
Coated Label	.07		.08½
No. 1 Manila	.04¼		.05¾
No. 1 Fibre	.04¾		.05¼
No. 2 Manila	.04¼		.04¾
Butcher's Manila	.03¼		.03¾
No. 1 Kraft	4.75		5.00
Southern Kraft	3.88		4.25
No. 2 Kraft	3.88		4.25
Wood Tag Boards	.04¼		.06¼
Sulphite Screenings	.03		.03¼
Manila Tissue	.05¾		.07
White Tissue	.07		.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00		
Sheets, open	46.00		51.00
Boards, per ton—			
Plain Chip	46.50		—
Solid News	50.00		—
Manila Lined Chip	55.00		—
Patent coated	65.00		—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50		.55
Mixed Papers—			
No. 1	.30		.35
Roofing Stocks—			
No. 1	30.00		—
No. 2	28.00		—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10		.38
Ledgers	.06 9/10		.40
Writings—			
Fine No. 3	.05		.06
Superfine	.10		.18
Extra Fine	.15		.26
Fine	.15		.26
Fine, No. 2	.10		.25
Book, M. F.	.05¼		.06¼
Book, S. S. & C.	.05		.07½
Book, Coated	.06½		.09
Coated Lithograph	.06¾		.08½
Label	.07		.11
No. 1 Jute Manila	6.25		—
Manila Sul., No. 1	5.25		—
Manila No. 2	3.00		—
No. 1 Kraft	5.00		—
Southern Kraft	4.75		—
Common Bogus	.03		.04½
News Print Rolls	46.00		55.00
Straw Board	40.00		45.00
News Board	50.00		—
Chip Board	45.00		—
Wood Pulp Board	70.00		85.00
Binder Boards—			
No. 1, per ton	75.00		80.00
No. 2, per ton	70.00		75.00
Carload lots	65.00		70.00
Tarred Felts—			
Regular	52.25		54.25
Slaters (per roll)	.84		.94
Best Tarred, 1-ply (per roll)	1.95		2.10
Best Tarred, 2-ply (per roll)	1.50		1.66
Best Tarred, 3-ply	2.00		2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.03½		.04
New White, No. 2.	.02½		.04
Light Silesias	.02½		.03
Silesias, No. 1	.03		.03½
Black Silesias, soft	.02½		.03
New Unbleached	.05		.05½
Washable, No. 1	.01½		.02
Blue Overall	.03½		.04
Cottons—According to grades—			
Washable, No. 2	.02½		.03
New Blue	.01½		.03
Fancy	.01½		.03
New Black Soft	.02		.04
New Light Seconds	.01½		.02
New Dark Seconds	1.50		1.75
Khaki Cuttings—			
No. 1 O.D.	.03		.04
No. 2 Mixed	.03		.04
Corduroy	.02		.03
New Canvas	.03½		.04½
New Black Mixed	.02½		.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.10	@	1.20
No. 1 Books, heavy	.65	@	.70
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.15	@	1.20
No. 1 Mixed Paper	.32½	@	—
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.60	@	—
Old Newspapers	.42½	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06		.12½
Rag Content	.12		.30
All Rag	.36		.52½
Bonds—			
Sulphite	.07¾		.11
Rag Content	.12		.30
All Rag	.36		.65
Writings	.06½		.20
Superfines	.11		.31
Book, Super	.06		.09
Book, M. F.	.05½		.08½
Book, Coated	.08½		.18
Coated Litho	.09		.12
Label	.09½		.15
Jute Manila No. 1	.11		.13
Manila, Sul. No. 1	.04¾		.06½
Manila, Sul. No. 2	.03¾		.04½
No. 1 Kraft	.04¾		.05
No. 2 Kraft	.03¾		.04½

(F. o. b. Boston)

Southern Kraft	.03¾		.04½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02		.02¾

(Delivered New England points)

News Print, rolls	44.50		—
Straw Board, rolls.009	—		35.00
Straw Board in Sheets, basis 35s to 70s	—		40.00
Filled News Board	40.00		45.00
Chip Board	37.50		40.00
Chip Board (Creasing)	37.50		40.00
Single Manila Lined Chip	47.50		52.50
Single White, Patent Coated News Board (Bender)	57.50		65.00
Wood Pulp Board	70.00		75.00
Binder Boards (Standard Grade)	67.00		75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.25
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.80	@	.85
Solid Ledger Books	1.75		—
Overissue Ledger Stock	1.15		1.30
Mixed Ledgers	.95	@	1.05
No. 1 Books, heavy	.85	@	.90
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50		.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.65	@	.70
White Blank News	1.10	@	1.15
No. 1 Kraft	1.05	@	1.10
Manila	.55	@	.60
No. 1 Mixed Papers	.32½	@	—
Print Manila	.45	@	.50
Overissue News	.50	@	.55
Old Newspapers	.42½	@	.45
Box Board Chips	..	@	.25
Corrugated Boxes	.32½	@	.40
Screening Wrappers	.50	@	.60

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	1.75
Domestic	1.90	@	2.00
Transmission Rope	.90	@	1.00
Mixed Strings	.30	@	.37½
Jute Rope	1.35	@	1.40
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.15	@	1.20
Bleachery Burlap	4.00	@	4.50
Scrap Burlap	1.05	@	1.10
Scrap Sisal	1.00	@	1.25
Scrap Sisal for Shredding	1.10	@	1.25
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.45	@	1.50
Australian Wool Pouches	2.00	@	2.25
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.50	@	.55

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1.	.05½	@	.06
New White No. 2.	.03½	@	.04
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.05½	@	.06
Blue Cheviot	—	@	4.65
Fancy	—		.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—		.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.02¾	@	.03
Corduroy	.01¾	@	.02
New Canvas	—		.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½		—
White No. 1—			
Repacked	—	@	3.00
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	2.25	@	2.50
Roofing Stock			
No. 1	.70	@	.75
No. 2	.65	@	.70
No. 3	.55	@	.60

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.85		.95
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.25	@	1.35

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¾		—
No. 2 Sulphite	.08½		—
No. 1 Colored	.10¾		—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½		—
Ledgers, No. 2	.25½		—
Writing	.09		.09½
Book—			
No. 1 M. F. (Carloads)	6.20		—
No. 3 M. F. (Carloads)	5.70		—
No. 4 M. F. (carloads)	4.75		—
No. 1 S. C. (carloads)	6.65	⅛	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00		—
No. 2 Coated and Litho	10.50		—
No. 3 Coated and Litho	9.50		—
Coated tinted	14.00		—
Wrapping—			
Rag Brown	4.25		—
White Wrap	2.22½		—
"B" Manila	4.75		—
No. 1 Manila	5.25		—
Fiber	5.25		—
Kraft, M. F.	5.75		—
Kraft No. 2	5.25		—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp
(F. o. b. Mill)

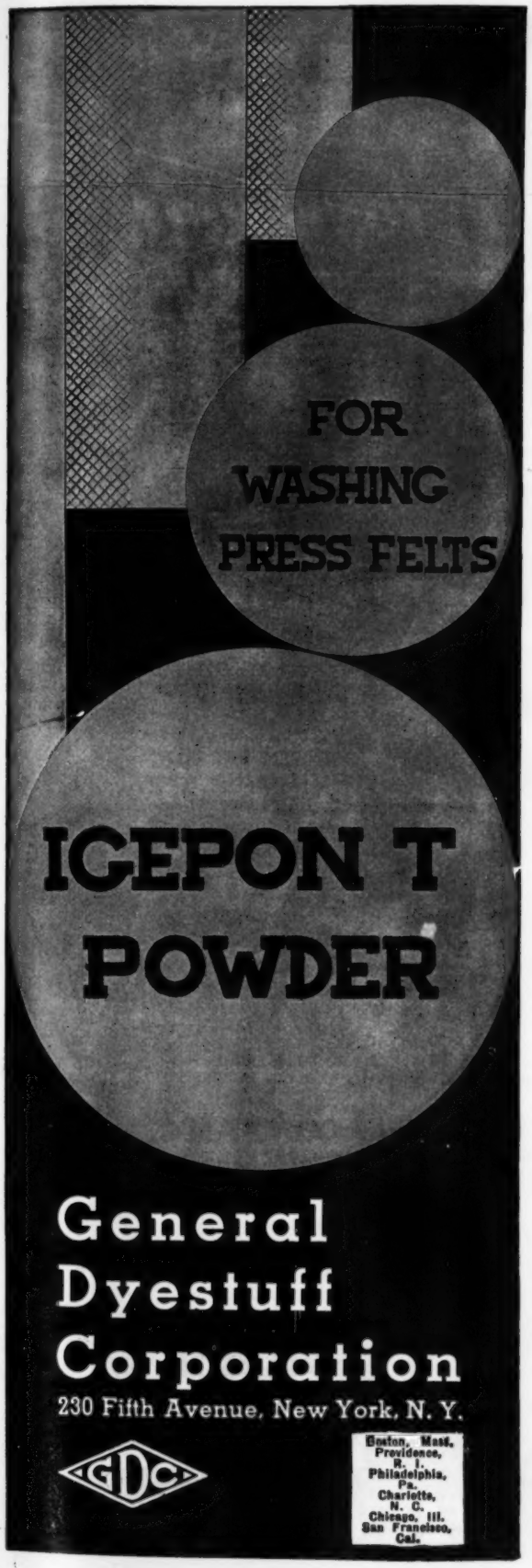
Ground Wood	18.00		20.00
Sulphite easy bleaching	40.00		—
Sulphite, news grade	38.00		—
Sulphite, bleached	50.00		55.00
Sulphate	50.00		—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00		2.30
Soft White	1.60		1.90
White Blk. News	1.25		1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90		1.00
Light and Crumpled Book Stock	.80		.90
Ledgers and Writings	1.00		1.05
Manilas—			
New Manila Cut	1.25		1.50
Printed Manilas	.70		.60
Kraft	1.25		1.50
News and Scrap—			
Strictly Overissue	.80		—
Strictly Folded	.60		—
No. 1 Mixed Paper	.50		—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06		.06¼
Fancy Shirt Cuttings	.02¼		.02½



PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-THIRD YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the
LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.

Published at 34 No. Crystal St., East Stroudsburg, Pa.
Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Canadian Newsprint Problem Complicated 15
Answers Newspaper Publishers 16
Pulpwood Strike May Last All Winter 16
Hinde & Dauch Showing Gain 16
Canadian Pulpwood for France 16
Container Corp. Reports Good Earnings 17
To Be Vice President of Bryant 17
Boston Market Conditions Improving 18
Indianapolis Demand More Active 18
To Be Philadelphia Manager 18
Chicago Paper Demand Improving 19
Salesmen Want Code Decisions 19
Sherman Paper Co. May Get Contract 19
Philadelphia Market Outlook Brighter 20
Delaware Valley TAPPI Discusses Beating ... 21
Paper Men Visit Orient 21
Roots-Connersville Blowers 21
Obituary 22
Construction News 24
Electronic Relay Facilitates Telemetering 26
Editorial 28
Kraft Paper Div. Submits Budget 29
Installing Water Filtration System 29
Weekly Production Ratio Report 29
Paper Board Men to Meet in New York 29
Reiser Co. Buys Shamokin Mill 29
Technical Section
Horizontal Porosity with the Bekk Smoothness Tester as it Affects Smoothness 31
TAPPI Fall Meeting Movies Available 33
Industrial Cable 33
Sprayed Molten Metal Coatings 34
United States on Paper Making 38
Pulp and Paper Industry Literature Review . 40
Forestry Expert Points Out Advantages to Paper Industry Offered by Alabama 43
Felt Cleaning Suction Roll 44
Imports of Paper and Paper Stock 45
New York Market Review 47
Miscellaneous Markets 48
Market Quotations 58

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

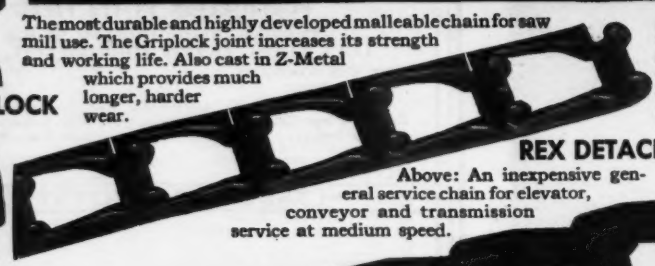
Want and For Sale Advertisements, 52-53

REX CHAIN

FOR EVERY DRIVE & CONVEYOR

REX GRIPLOCK

The most durable and highly developed malleable chain for saw mill use. The Griplock joint increases its strength and working life. Also cast in Z-Metal which provides much longer, harder wear.



Accuracy, uniformity, high tensile strength and a high degree of finish make this an outstanding high speed drive chain. Single and multiple strands.

REX ROLLER

REX DETACHABLE

Above: An inexpensive general service chain for elevator, conveyor and transmission service at medium speed.

REX CHABELCO

A highly developed steel chain with Rex Press Fit construction. For high speed drives and conveyors.

REX BARKING DRUM CHAIN

An all-steel chain—especially designed for this service. Made from high grade steels to provide greater strength, greater resistance to shocks and strains, and longer life on barking drums.

REX DUROBAR

The added metal on the barrel of the block link makes this a longer lasting combination chain—especially when cast in Z-Metal.

OTHER REX CHAINS

Chain Belt Company makes a complete line of standard chains in malleable, Z-Metal, Steel and Combination for practically all drives and conveyors. Also Sprockets, Take-Ups, Set Collars, Buckets, Belt Idlers.

CHAIN BELT COMPANY
1605 W. Bruce St. MILWAUKEE, WIS.

Branch Offices in Principal Cities

CHAIN BELT COMPANY

CHAIN & BELT CONVEYING